ORDER NO. AD8903067C2

Service Manual

Amplifier

Digital Integrated Amplifier

SU-X999

Color

(K)...Black Type

Area

Country Code	Area	Color
(E), (E5)	Continental Europe	(K)
(EB)	Great Britain	(K)
(EG)	F.R. Germany & Italy	(K)

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

DIN power output	
1 kHz THD:1%	2 x 100 W (8Ω)
Total harmonic distortion	
rated power at 1 kHz	1% (8Ω)
Harmonic distortion	
half power at 1 kHz	0.007% (8Ω)
Residual hum and noise	0.2 mV
Damping factor	30 (8Ω)
Input sensitivity and impedance	
PHONO	3mV/47 kΩ
TUNER,AUX,TAPE 1,TAPE 2	150mV/22 kΩ
CD	200mV/22 kΩ
Maximum input voltage (1 kHz,RMS)	
PHONO	100 mV
S/N (rated power 8Ω)	
PHONO	75 dB (IHF,A:79 dB)
TUNER,CD,AUX,TAPE 1,TAPE 2	82 dB (IHF,A:83 dB)
Frequency responce	
PHONO	RIAA standard curve ± 0.8dB(30 Hz ~ 15 kHz)
TUNER,CD,AUX,TAPE 1,TAPE 2	10 Hz ~ 60 kHz (-3 dB)
CD,DAT (digital section)	15 Hz ~ 20 kHz (-0.5 dB)
Tone controls	
BASS	50 Hz, + 10 dB ~ -10 dB
TREBLE	20 kHz, + 10 dB ~ -10 dB
Muting	-20 dB
Super bass	70 Hz, + 10 dB
Output voltage	
TAPE 1,TAPE 2,REC OUT	150 mV
Channel balance,AUX 250 Hz ~ 6,300 Hz	±1.0 dB
Channel separation, AUX 1 kHz	60dB
Headphones output level and impedance	660 mV/330 Ω
Load impedance	
A or B	8 Ω ~ 16 Ω
SURROUND	8 Ω ~ 16 Ω

■ GENERAL

Power consumption	460 W
Power supply	
For Great Britain	AC 50 Hz/60 Hz,240V
For others	AC 50 Hz/60 Hz,220V
Dimensions (W x H x D)	360 x 128 x 300 mm (14-3/16" x 5-1/32" x 11-13/16")
Weight	7.9 kg (17.4 lb.)

Notes:

1.Specifications are subject to change without notice. Weight and dimensions are approximate.

2.Total harmonic distortion is measured by the digital spectrum analyzer.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

■ CONTENTS

	Page
BEFORE REPAIR	2
PROTECTION CIRCUITRY	2
ACCESSORY	2
LOCATION OF CONTROLS	3
CONECTIONS	4, 5
DISASSEMBLY INSTRUCTIONS	6~8
BLOCK DIAGRAM	10~12
SCHEMATIC DIAGRAM	13~20
DESCRIPTION OF FL PANEL	13
PRINTED CIRCUIT BOARDS	21~25
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES	25
WIRING CONNECTION DIAGRAM	26
FUNCTIONS OF IC TERMINALS	27, 28
RESISTORS AND CAPACITORS	29~32
REPLACEMENT PARTS LIST	33, 34
EXPLODED VIEW	35

■ BEFORE REPAIR

(1)Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors(C701,C702,6800μF) in order to discharge the voltage.

(2)Before turning the power supply on , after completion of repair , slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50Hz/60Hz in NO SIGNAL mode should be shown below with respect to supply voltage 220V/240V.

Power supply voltage	AC220V	AC240V
Consumed current 50Hz	165 ~ 495mA	152 ~ 456mA
Consumed current 60Hz	158 ~ 474mA	146 ~ 437mA

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

* No sound is heard when the power is switched ON.

* Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted" , or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

1.Switch OFF the power.

2.Determine the cause of the problem and correct it.

3.Switch ON the power once again.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

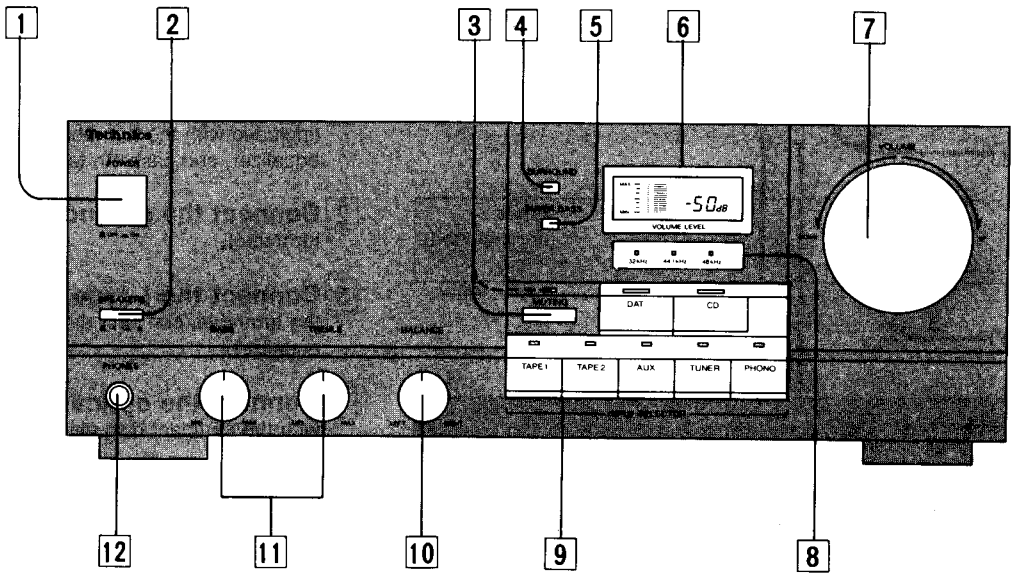
■ ACCESSORY

• AC power supply cord.....1
Configuration of AC power supply cord differs according to area.

SJA188 .....For (EB) area only.
SFDAC05E03 ....For Others.

■ LOCATION OF CONTROLS

•Front panel



1 Power switch (POWER)

2 Speaker selector (SPEAKERS)

3 Audio muting switch/indicator (MUTING)

4 Surround-sound switch (SURROUND)

5 Super bass switch (SUPER BASS)

6 Volume-level indicator (VOLUME LEVEL)

7 Volume control (VOLUME)

8 Sampling frequency indicators

32 kHz: For digital signals with the 32-kHz mode sampling frequency

44.1 kHz: CD and others

48 kHz: For digital signals with the 48-kHz mode sampling frequency

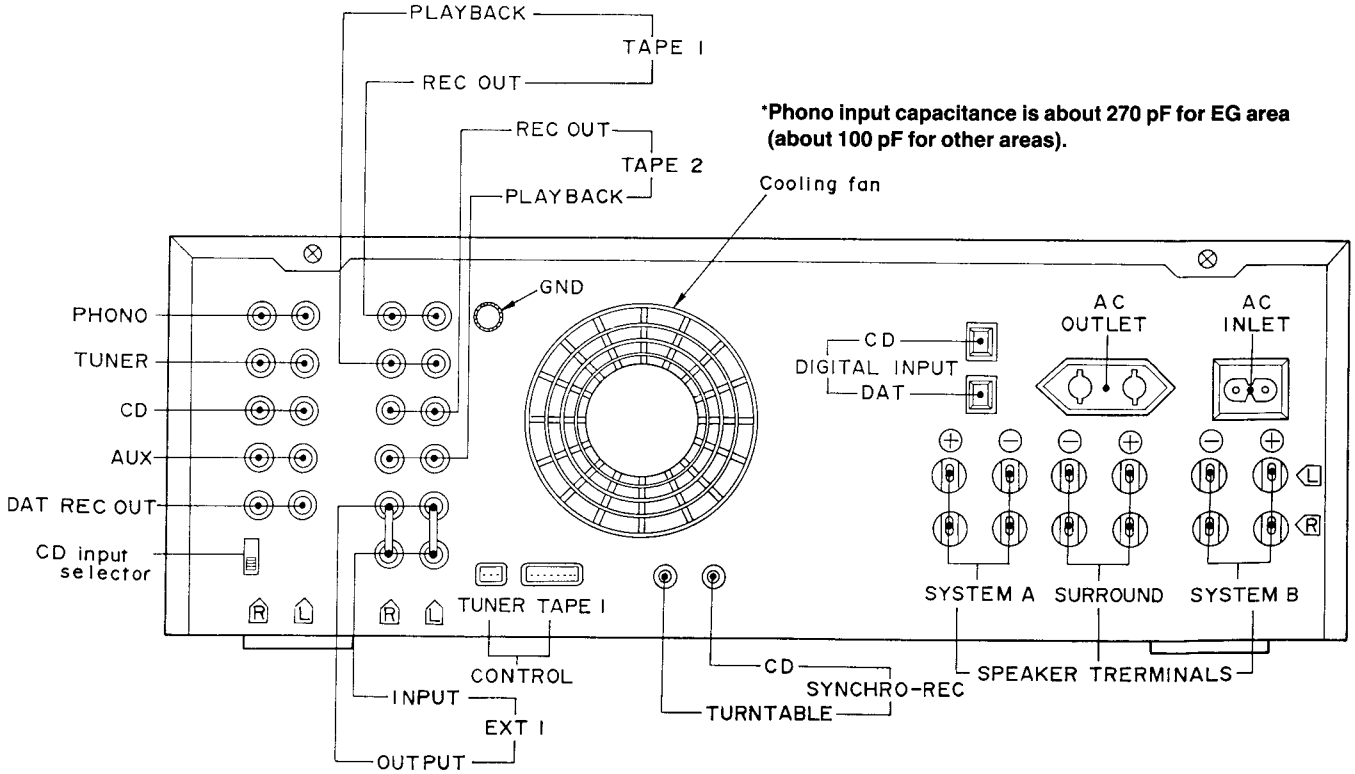
9 Input selectors/indicators (INPUT SELECTOR)

10 Balance control (BALANCE)

11 Tone controls (BASS/TREBLE)

12 Headphones jack (PHONES)

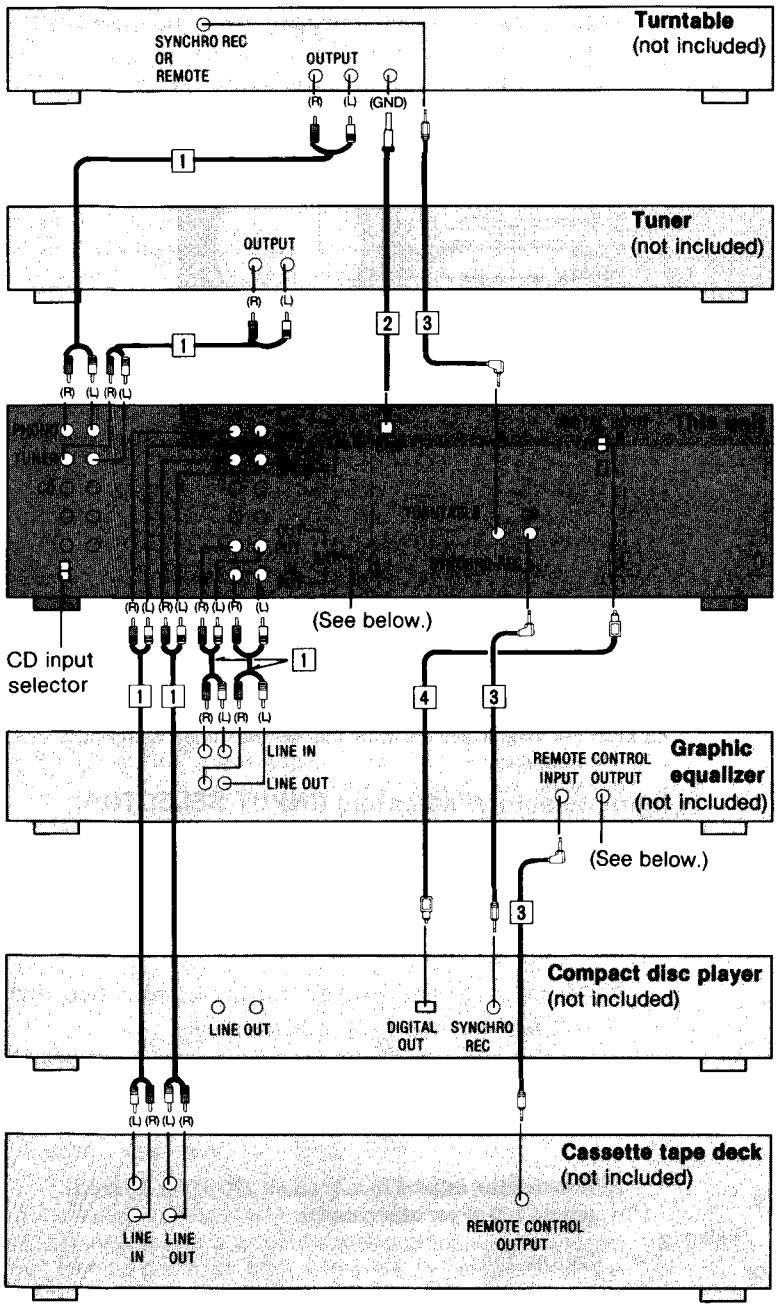
•Rear panel



***Phono input capacitance is about 270 pF for EG area (about 100 pF for other areas).**

SU-X999

■ CONNECTIONS



Connection diagrams shown are for connections to a Technics hi-fi component system.
Make connections in the numbered sequential order.

1 Connect the stereo connection cables (included with the turntable, tuner, graphic equalizer, and cassette tape deck).

2 Connect the ground wire (included with the turntable).

3 Connect the L-type cables (included with the turntable, compact disc player, and graphic equalizer).

4 Connect the optical-fiber cable (included with the compact disc player).

■ Compact disc player connections

If your compact disc player does not have the "DIGITAL OUTPUT" terminal, use stereo connection cables (not included) to make the connections between the "CD" terminals of this unit and the "LINE OUT" terminals of the compact disc player. If this type of connection is made, this unit's CD input selector should be set to "ANALOG".

■ CD input selector of this unit

This selector is used for selection of the format (analog or digital) of the input signals from the compact disc player.

ANALOG: Set to this position if stereo connection cables are used.

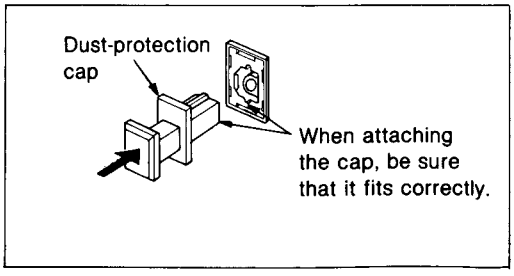
DIGITAL: Set to this position if an optical-fiber cable is used.

Notes:

1. Be sure the power switch of this unit is switched OFF before changing the setting of this selector. (Interference noise may be emitted if the power switch is ON.)
2. The setting of this selector must be made correctly; if not, no sound will be emitted when the "CD" input selector of the front panel of this unit is selected.

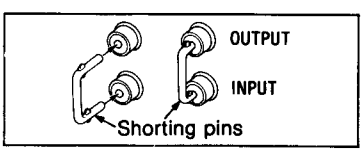
■ "DIGITAL INPUT" terminals of this unit

These terminals are protected by the dust-protection caps to avoid damage by the dust, etc.
Remove the caps only when the "DIGITAL INPUT" terminals are to be used.
When these terminals are not being used, attach the caps as shown in the illustration below.



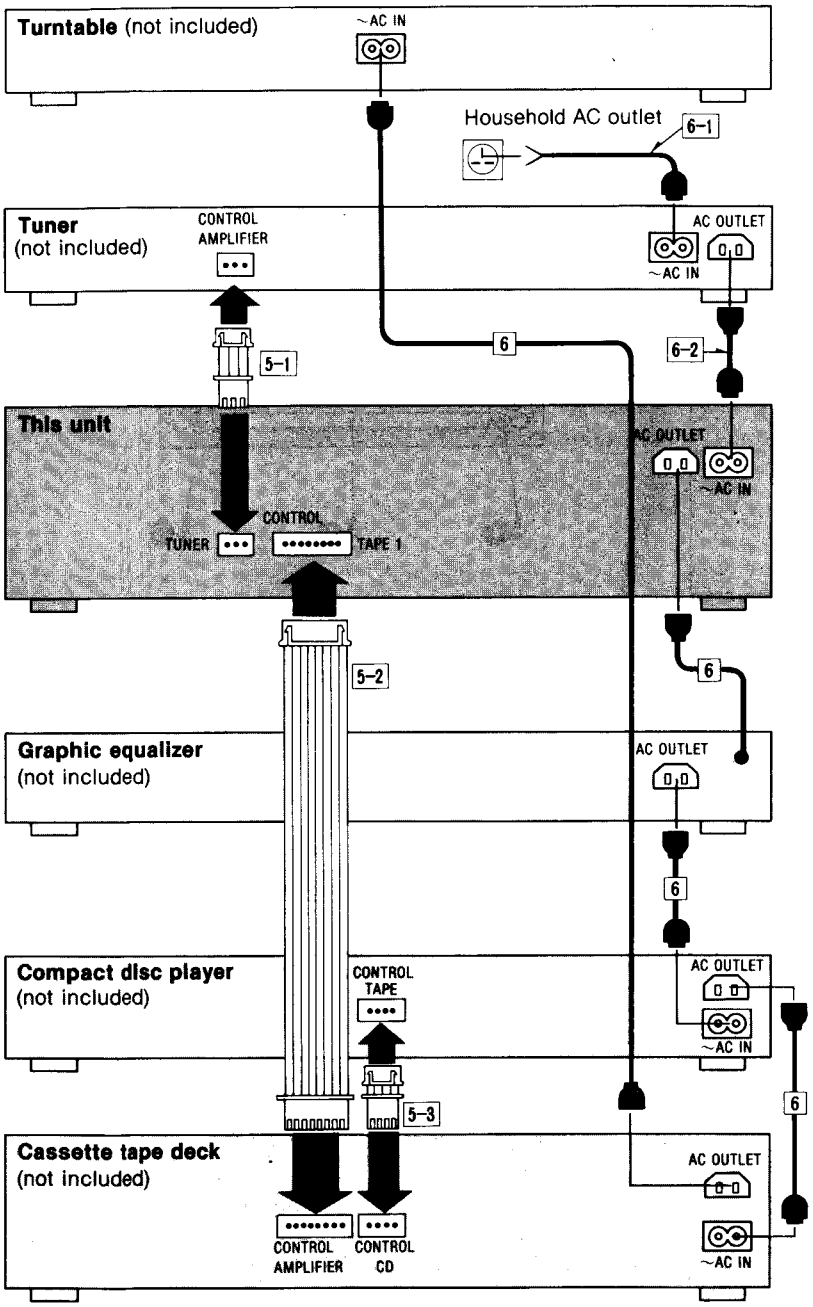
■ "EXT" terminals of this unit

When these terminals are not in use, be sure to insert the shorting pins (included).



■ "REMOTE CONTROL OUTPUT" terminal of the graphic equalizer

This terminal is used to connect the compact disc player with the remote-control terminal.



5 Connect the flat cables.

5-1 Connect the 3-core flat cable (included with the tuner).

5-2 Connect the 8-core flat cable (included with the cassette tape deck).

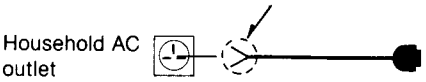
5-3 Connect the 4-core flat cable (included with the cassette tape deck).

6 Connect the AC power supply cords.

6-1

① Connect this cord only after all other cables and cords have been connected.

② Fit a suitable plug to an AC power supply cord.



6-2

If the cord is to be connected to the household AC outlet, cut off and dispose of the plug and replace with a suitable plug.

Note:
If the graphic equalizer is not used in combination with these components, connect the AC power supply cord of the compact disc player to the AC outlet of the amplifier. If the compact disc player is not used in combination with these components, connect the AC power supply cord of the cassette tape deck to the AC outlet of the graphic equalizer.

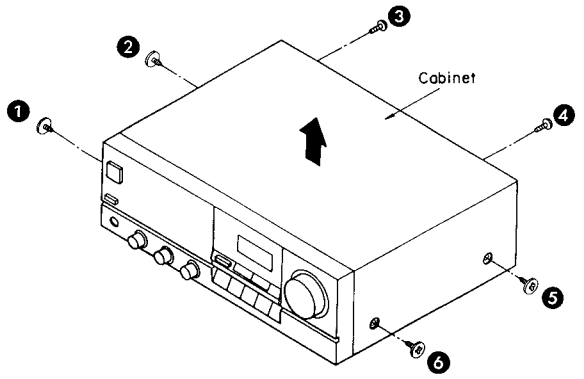
■About the AC outlets of the each components

Do not connect video-related equipment (such as a TV, etc.) to the AC outlets of these components. (These outlets are especially for audio equipment.) Also do not exceed the indicated power ratings when connecting to these outlets.

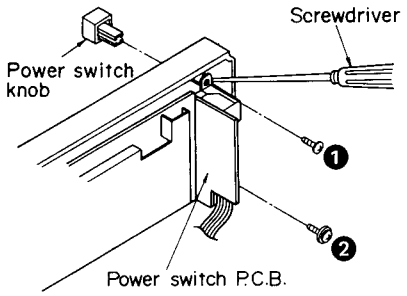
- **"SWITCHED" outlets** (For tuner, this unit, cassette tape deck)
  Power is controlled by the power switch of each unit.
- **"UNSWITCHED" outlets** (For compact disc player, graphic equalizer)
  Power is always available, regardless of power switch setting.

■ DISASSEMBLY INSTRUCTIONS

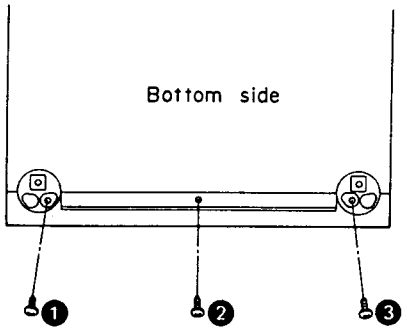
Ref. No. 1	Removal of the cabinet
Procedure 1	•Remove the 6 screws (❶~❻).

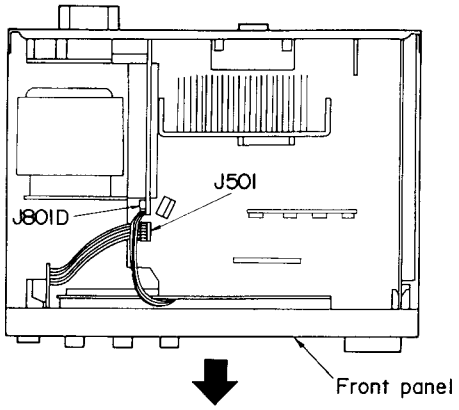


Ref. No. 3	Removal of the power switch P.C.B.
Procedure 1→2→3	1. Remove the power switch knob by pushing it from behind the front panel. 2. Remove the 2 screws (❶, ❷).



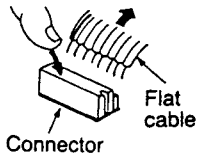
Ref. No. 2	Removal of the front panel
Procedure 1→2	1. Remove the 3 screws (❶~❸). 2. Remove the flat cable (J501). 3. Pull out the 1 connector (J801D). 4. Remove the front panel in the direction of the arrow.



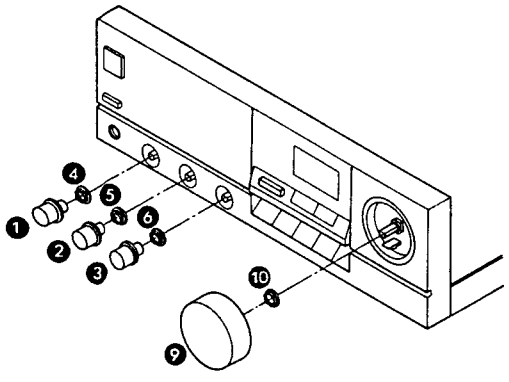


Removal of the flat cable

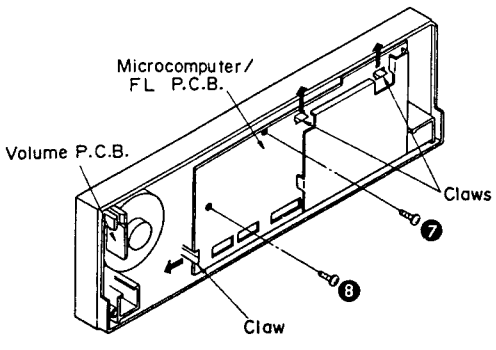
Pull out the flat cable while pressing the connector.

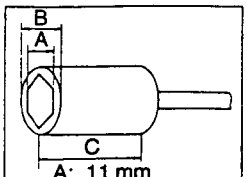


Ref. No. 4	Removal of the microcomputer/ FL P.C.B. and volume P.C.B.
Procedure 1→2→4	Removal of the volume P.C.B. 1. Remove the 1 knob (❾). 2. Remove the 1 nut (❿).



Removal of the microcomputer/FL P.C.B.
1. Remove the 3 knobs (❶~❸).
2. Remove the 3 nuts (❹~❻).
3. Remove the 2 screws (❼, ❽).
4. Push the 3 claws and remove the microcomputer/FL P.C.B.





A: 11 mm
B: 16 mm
C: longer than 18 mm
•Use a wrench of the dimensions shown in the illustration above to remove nuts.

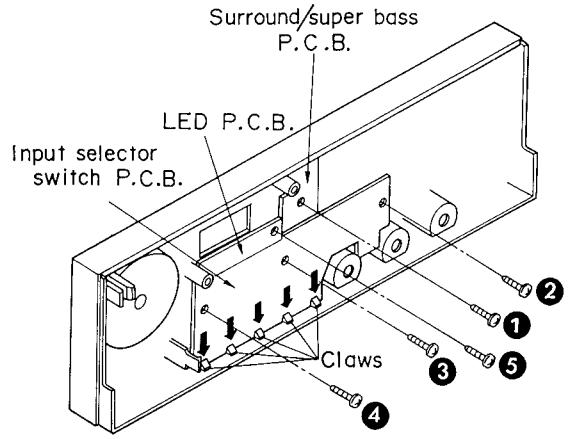
Ref. No. 5	Removal of the surround/super bass P.C.B., input selector switch P.C.B. and LED P.C.B.

Procedure 1→2→4→5

Removal of the surround/super bass P.C.B.
- Remove the 1 screw (❶).

Removal of the input selector switch P.C.B.
1. Remove the 3 screws (❷~❹).
2. Push the 5 claws and remove the input selector switch P.C.B.

Removal of the LED P.C.B.
- Remove the 1 screw (❺).



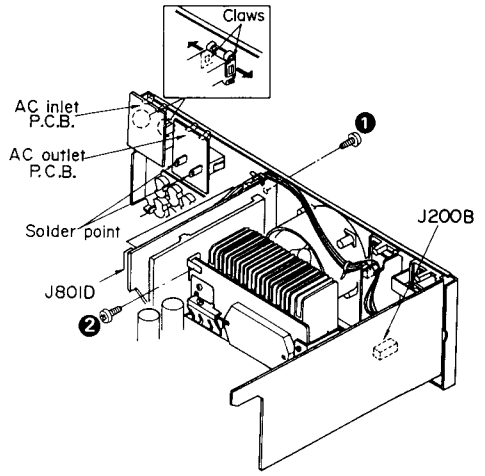
Ref. No. 6	Removal of the digital input P.C.B. AC outlet P.C.B. and AC inlet P.C.B.

Procedure 1→6

Removal of the digital input P.C.B.
1. Pull out the 2 connectors (J200B, J801D).
2. Remove the 2 screws (❶, ❷).

Removal of the AC inlet P.C.B.
- Pull out the 2 claws in the direction of the arrow.

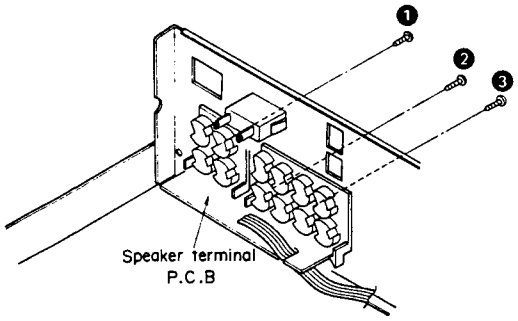
Removal of the AC outlet P.C.B.
- Unsolder the 2 terminals.



Ref. No. 7	Removal of the speaker terminal P.C.B.

Procedure 1→6→7

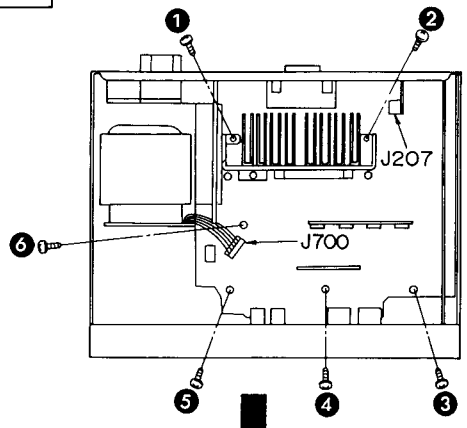
- Remove the 3 screws (❶~❸).

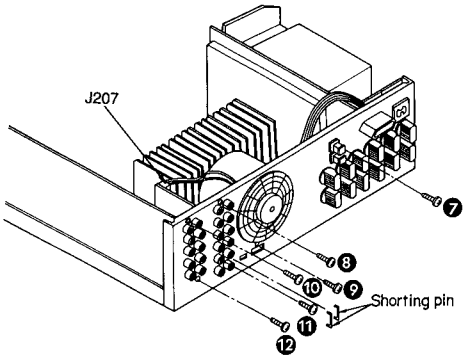


Ref. No. 8	Checking of the main P.C.B.

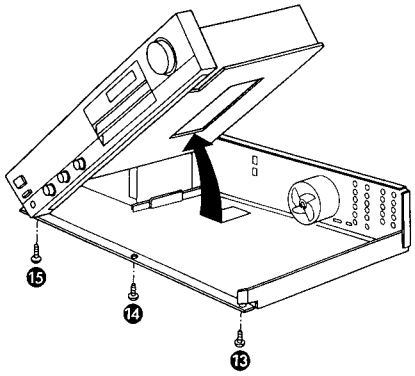
Procedure 1→6→8

1. Remove the 6 screws (❶~❻).
2. Remove the flat cable (J207, J700).



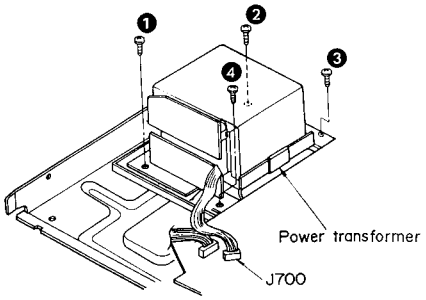


3. Remove the 6 screws (❼~⓬)
4. Remove the shorting pin.
5. Pull out the 1 connector (J207).

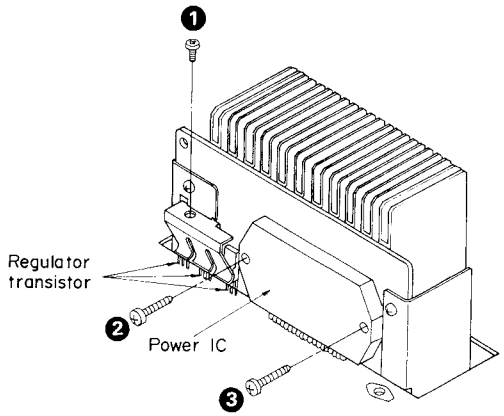


6. Remove the 3 screws (⓭~⓯).

Ref. No. 9	Removal of the power transformer
Procedure 1→6→8→9	1. Remove the 4 screws (❶~❹). 2. Remove the flat cable (J700).



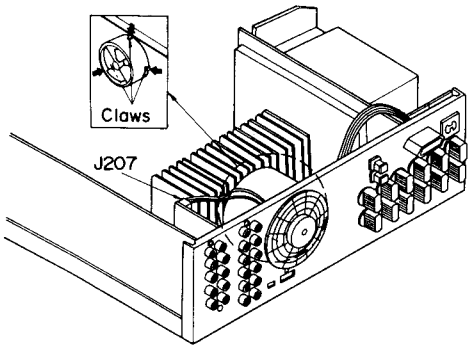
Ref. No. 10	Removal of the power IC and regulator transistor
Procedure 1→8→10	1. Unsolder the power IC or regulator transistor. 2. Remove the 3 screws (❶~❸).

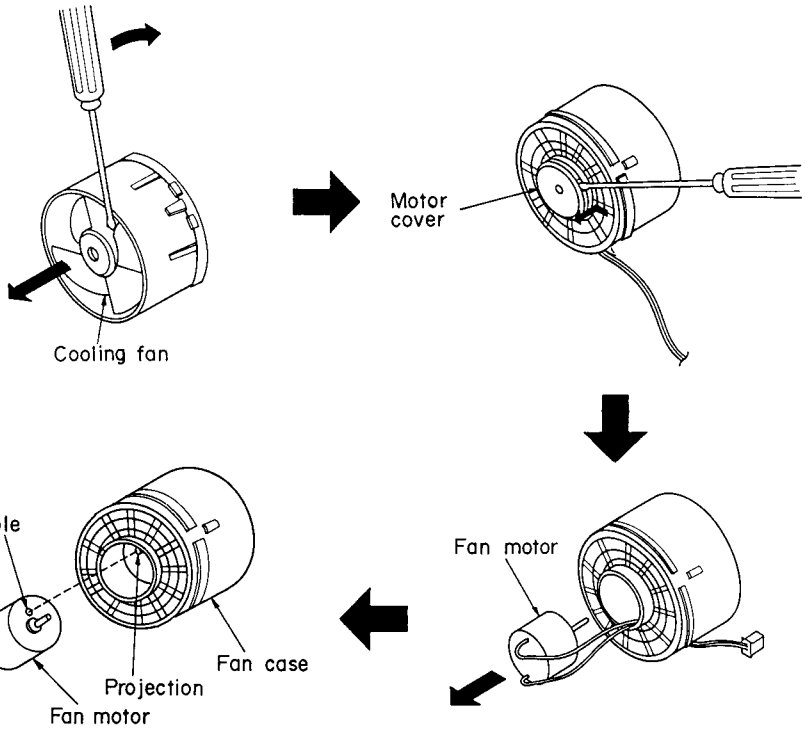


•When mounting the power IC or regulator transistor.
Apply silicone compound (SZZOL15) to the rear side of power IC or regulator transistor.

Ref. No. 11	Removal of the fan motor
Procedure 1→11	1. Pull out the 1 connector (J207). 2. Release the 3 claws.

3. Insert a screwdriver at the root of the cooling fan. Force it out of the motor shaft.
4. Remove the motor cover by used ⊖ screwdriver.
5. Remove the motor from the fan casing.
6. When mounting the motor fan, align the fan casing's projection with the hole of the fan motor.





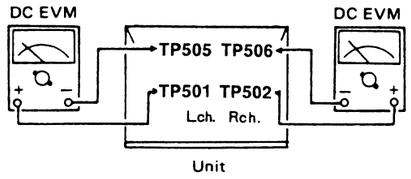
■ MEASUREMENTS AND ADJUSTMENTS

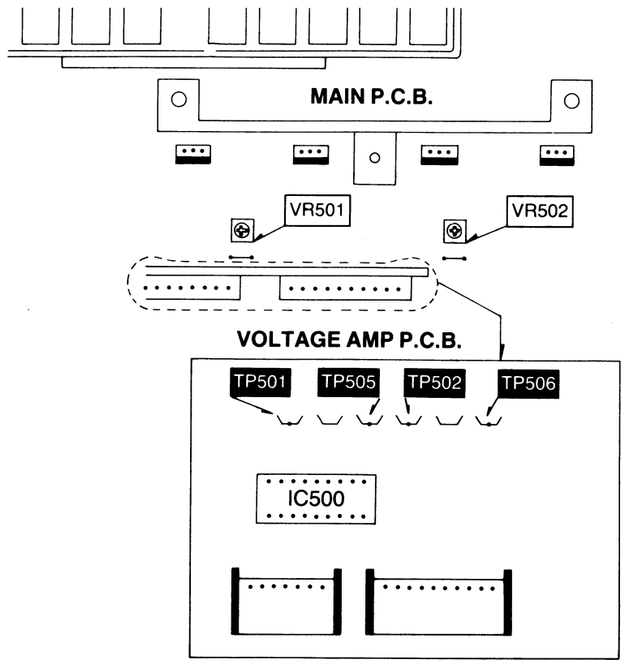
Control positions and equipment used.

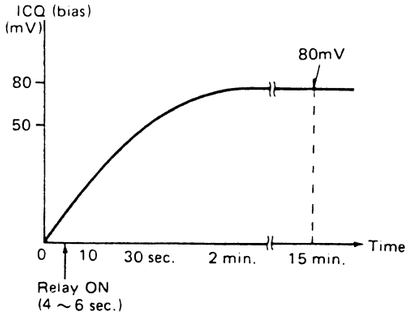
- Volume knob.....∞ (Minimum)
- Main speaker selector.....off
- Remote speaker selector.....off
- DC electronic voltmeter(EVM)

VOLTAGE CONTROL(V)AMP.IDLING(ICQ) ADJUSTMENT

1. Test equipment connection is shown in figure. (Connect the DC EVM on both channels.)
2. Completely turn the (V) amp. adjusting volumes (**VR501 , VR502**) counter-clockwise.
3. Turn ON the set when it is cold, and 15 sec.later, adjust **VR501** and **VR502** so that the voltage is **50mV.** Also, check that the voltage is **60 ~ 85mV** (standard : **80mV)** after lapse of **10 - 15 minutes.** (Below **85mV** after lapse of **60 min.)**







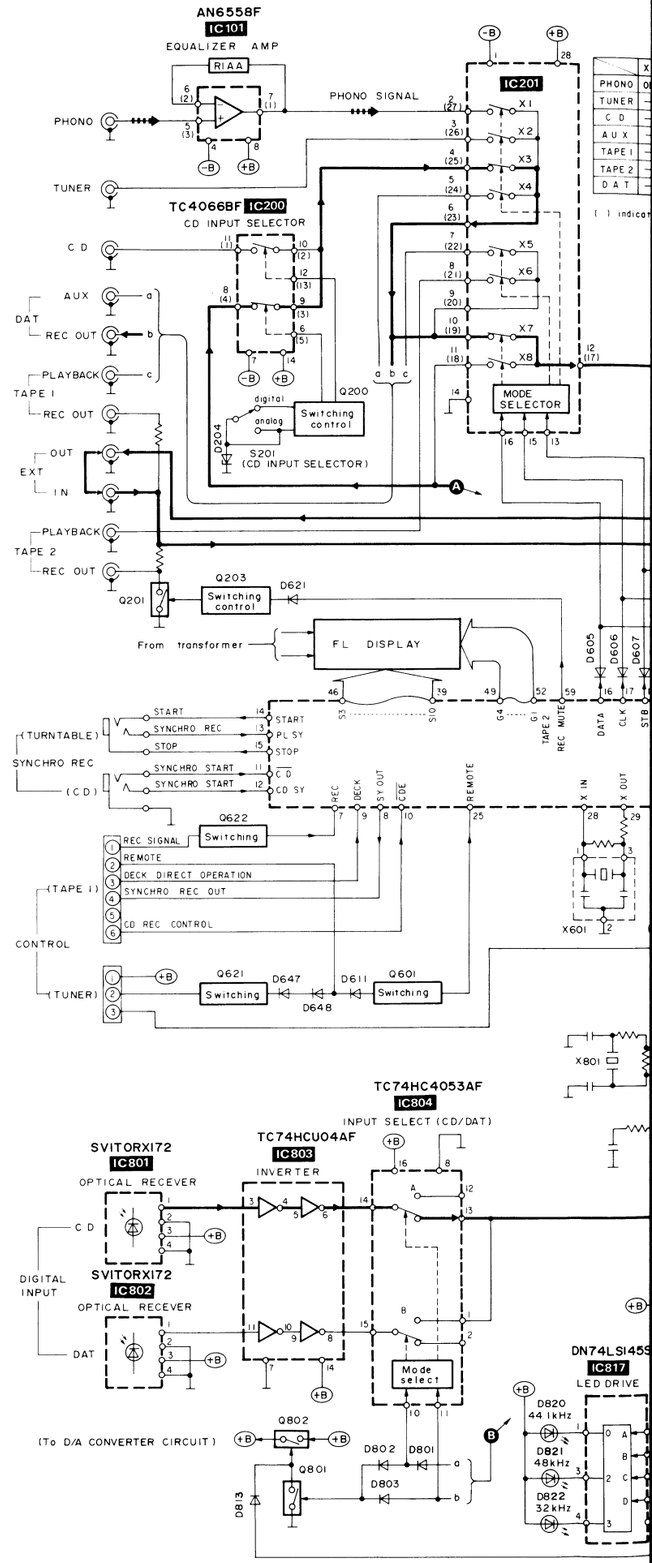
•Test point

TP501...L ch ⊕ Voltage control amp Icq adj.
TP505...L ch ⊖ Voltage control amp Icq adj.
TP502...R ch ⊕ Voltage control amp Icq adj.
TP506...R ch ⊖ Voltage control amp Icq adj.

•Adjustment VR

VR501...L ch Voltage control amp Icq adj.
VR502...R ch Voltage control amp Icq adj.

■ BLOCK DIAGRAM

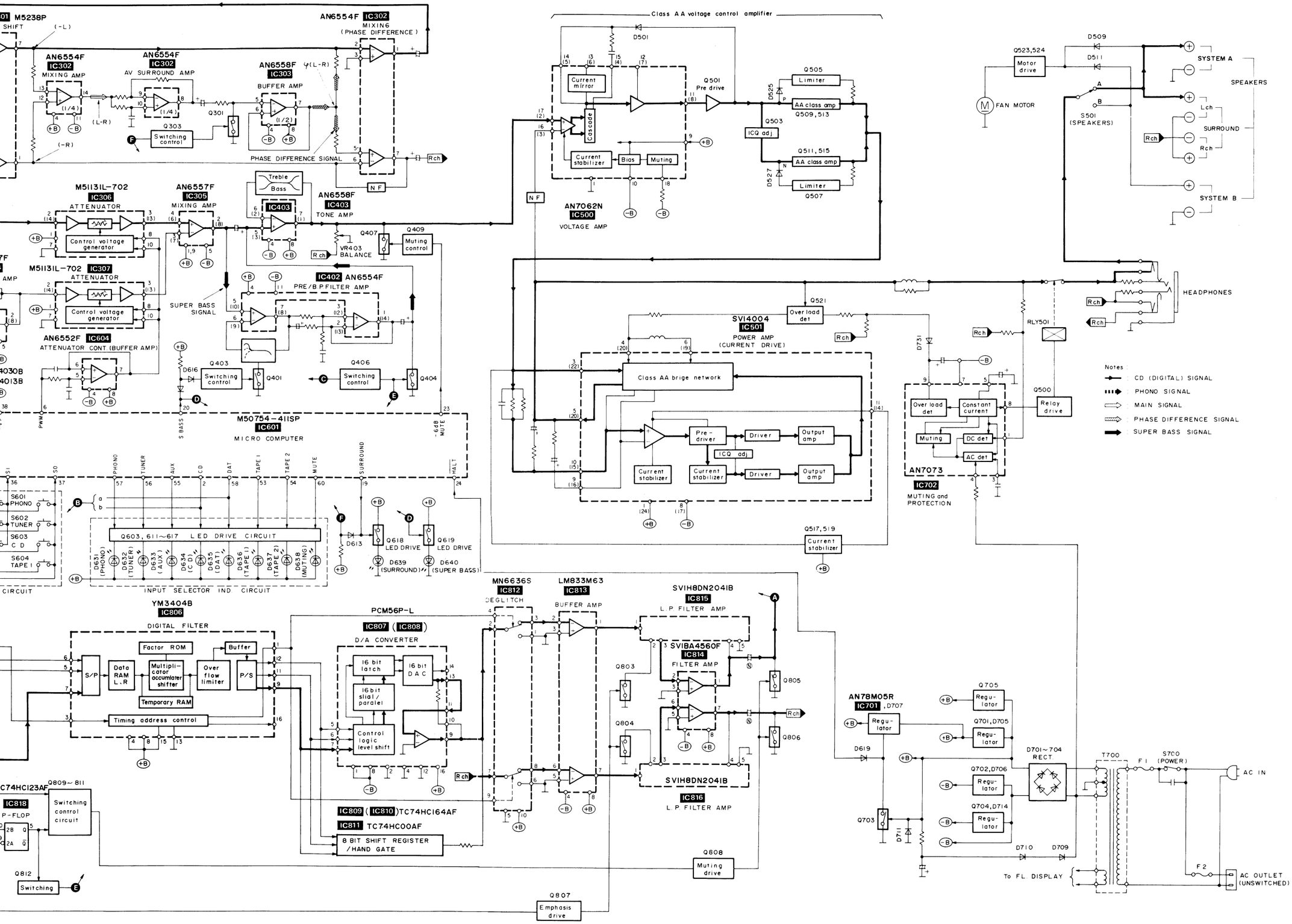


AN6558F
IC101
EQUALIZER AMP
RIAA
PHONO SIGNAL
IC201
TC9164N
IC201
INPUT SELECTOR

	X1	X2	X3	X4	X5	X6	X7	X8
PHONO	ON	—	—	—	—	—	ON	—
TUNER	—	ON	—	—	—	—	ON	—
C D	—	—	ON	—	—	—	ON	—
A U X	—	—	—	ON	—	—	ON	—
TAPE 1	—	—	—	—	ON	—	ON	—
TAPE 2	—	—	—	—	—	ON	ON	—
D A T	—	—	—	—	—	—	—	ON

( ) indicates pin No. of right channel

TC4066BF IC200
CD INPUT SELECTOR
Q200
digital
analog
Switching control
D204
S201
(CD INPUT SELECTOR)
MODE SELECTOR
IC301 M5238P
PHASE SHIFT
(-L)
(-R)
AN6554F IC302
MIXING AMP
(1/4)
(L-R)
AN6554F IC302
AV SURROUND AMP
(1/4)
Q303
Switching control
Q301
AN6558F IC303
BUFFER AMP
(1/2)
φ(L-R)
AN6554F IC302
MIXING
(PHASE DIFFERENCE)
PHASE DIFFERENCE SIGNAL
Rch
NF
M51131L-702 IC306
ATTENUATOR
Control voltage generator
AN6557F IC305
MIXING AMP
AN6558F IC403
TONE AMP
Treble
Bass
VR403 BALANCE
Q407
Q409
Muting control
AN6557F IC304
INVERSION AMP
M51131L-702 IC307
ATTENUATOR
Control voltage generator
SUPER BASS SIGNAL
IC402 AN6554F
PRE/B.P.FILTER AMP
AN6552F IC604
ATTENUATOR CONT (BUFFER AMP)
IC602 MN40308
IC603 MN40138
VR601 VOLUME ENCODER
IC602 IC603
INTERFACE
Q403
Switching control
Q401
Q406
Switching control
Q404
D616
M50754-411SP
IC601
MICRO COMPUTER
Q203
Switching control
D621
transformer
FL DISPLAY
D608
D609
D610
Q604
Switching
D605
D606
D607
DATA
CLK
STB
MUTE
VR1
VR0
Vdd
-Vp
PWM
S BASS
-6dB MUTE
REC MODE
TAPE 2
START
PL SY
STOP
C D
CD SY
REC
DECK
SY OUT
CDE
REMOTE
X IN
X OUT
Vss
X3
X2
X1
X0
S2
S1
S0
PHONO
TUNER
AUX
CD
DAT
TAPE 1
TAPE 2
MUTE
SURROUND
HALT
Q622
Switching
X601
Q602
Switching
(TUNER)
D627
S605 TAPE2
S601 PHONO
S608 MUTING
S606 AUX
S602 TUNER
S609 SURR
S607 DAT
S603 C D
S610 S.BASS
S604 TAPE 1
KEY MATRIX CIRCUIT
Q603, 611~617 LED DRIVE CIRCUIT
D631 (PHONO)
D632 (TUNER)
D633 (AUX)
D634 (C D)
D635 (DAT)
D636 (TAPE 1)
D637 (TAPE 2)
D638 (MUTING)
INPUT SELECTOR IND. CIRCUIT
D613
Q618 LED DRIVE
Q619 LED DRIVE
D639 (SURROUND)
D640 (SUPER BASS)
Q621
Switching
D647
D648
D611
Q601
Switching
YM3623B
IC805
DIGITAL SIGNAL PROCESSING
X801
Crystal osc
VCO
Clock select
Timing pulse generator
Phase difference det
Battery check
Timing generator (latch)
S/P Converter
Latch
P/S Converter
S/P Converter
Latch
Data err det
YM3404B
IC806
DIGITAL FILTER
Factor ROM
Buffer
Multiplicator accumulater shifter
Over flow limiter
P/S
Data RAM L.R
S/P
Temporary RAM
Timing address control
PCM56P-L
IC807 (IC808)
D/A CONVERTER
16 bit latch
16 bit D A C
16 bit shift/parallel
Control logic level shift
MN6636S
IC812
DEGLITCH
LM833M63
IC813
BUFFER AMP
SVIH8DN2041B
IC815
L.P. FILTER AMP
SVIBA4560F
IC814
FILTER AMP
SVIH8DN2041B
IC816
L.P. FILTER AMP
Q803
Q804
Q805
Q806
IC809 (IC810) TC74HC164AF
IC811 TC74HC00AF
8 BIT SHIFT REGISTER /HAND GATE
Q808
Muting drive
Q807
Emphasis drive
TC74HC4053AF
IC804
INPUT SELECT (CD/DAT)
TC74HCU04AF
IC803
INVERTER
Mode select
Q802
Q801
D802
D801
D803
D813
DN74LS145S
IC817
LED DRIVE
D820 44.1kHz
D821 48kHz
D822 32kHz
TC74HC123AF
IC818
FLIP-FLOP
Q809~811
Switching control circuit
Q812
Switching
Class AA voltage control amplifier
D501
Current mirror
Cascode
Current stabilizer
Bias
Muting
Q501
Pre drive
Q505
Limiter
AA class amp
Q509,513
Q503
ICQ adj
Q511,515
AA class amp
Limiter
Q507
D525
D527
AN7062N
IC500
VOLTAGE AMP
Q523,524
Motor drive
FAN MOTOR
SVI4004
IC501
POWER AMP
(CURRENT DRIVE)
Q521
Over load det
Class AA brige network
Pre-driver
Driver
Output amp
ICQ adj
Current stabilizer
Current stabilizer
Driver
Output amp
Q517,519
Current stabilizer
AN7073
IC702
MUTING and PROTECTION
Over load det
Constant current
Muting
DC det
AC det
AN78M05R
IC701, D707
Regulator
Q701,D705
Regulator
Q702,D706
Regulator
Q704,D714
Regulator
Q705
Regulator
D619
Q703
D711
D710
To FL. DISP
RLY501
D731
Rch
Lch


M5238P
SHIFT
(-L)
AN6554F IC302
MIXING
(PHASE DIFFERENCE)
AN6554F IC302
MIXING AMP
AN6554F IC302
AV SURROUND AMP
AN6558F IC303
BUFFER AMP
(L-R)
(-R)
Q301
Q303
Switching control
PHASE DIFFERENCE SIGNAL
Rch
N F
M5113IL-702 IC306
ATTENUATOR
Control voltage generator
AN6557F IC305
MIXING AMP
Treble
Bass
IC403
AN6558F IC403
TONE AMP
VR403 BALANCE
Q407
Q409
Muting control
M5113IL-702 IC307
ATTENUATOR
SUPER BASS SIGNAL
IC402 AN6554F
PRE/B.P.FILTER AMP
AN6552F IC604
ATTENUATOR CONT (BUFFER AMP)
D616
Q403
Switching control
Q401
Q406
Switching control
Q404
M50754-411SP IC601
MICRO COMPUTER
PWM
S BASS
-6dB MUTE
S601 PHONO
S602 TUNER
S603 C D
S604 TAPE 1
Q603, 611~617 LED DRIVE CIRCUIT
D631 (PHONO)
D632 (TUNER)
D633 (AUX)
D634 (C D)
D635 (DAT)
D636 (TAPE 1)
D637 (TAPE 2)
D638 (MUTING)
INPUT SELECTOR IND CIRCUIT
D613
Q618 LED DRIVE
Q619 LED DRIVE
D639 (SURROUND)
D640 (SUPER BASS)
Class A A voltage control amplifier
D501
Current mirror
Cascode
Q501 Pre drive
Q505
Limiter
AA class amp
Q509,513
Q503
ICQ adj
Q511,515
AA class amp
Limiter
Q507
Current stabilizer
Bias
Muting
AN7062N IC500
VOLTAGE AMP
N F
Q523,524
Motor drive
FAN MOTOR
D509
D511
S501 (SPEAKERS)
SYSTEM A
SPEAKERS
Lch
SURROUND
Rch
Rch
SYSTEM B
HEADPHONES
Rch
Rch
Q521
Over load det
SVI4004 IC501
POWER AMP (CURRENT DRIVE)
Class AA brige network
Pre-driver
Driver
Output amp
ICQ adj
Current stabilizer
Current stabilizer
Driver
Output amp
Q517,519
Current stabilizer
RLY501
Q500
Relay drive
D731
Over load det
Constant current
Muting
DC det
AC det
AN7073 IC702
MUTING and PROTECTION
Notes :
CD (DIGITAL) SIGNAL
PHONO SIGNAL
MAIN SIGNAL
PHASE DIFFERENCE SIGNAL
SUPER BASS SIGNAL
YM3404B IC806
DIGITAL FILTER
Factor ROM
Buffer
S/P
Data RAM L,R
Multiplicator accumulater shifter
Over flow limiter
P/S
Temporary RAM
Timing address control
PCM56P-L IC807 (IC808)
D/A CONVERTER
16 bit latch
16 bit D A C
16 bit sial / parallel
Control logic level shift
MN6636S IC812
DEGLITCH
LM833M63 IC813
BUFFER AMP
IC809 (IC810) TC74HC164AF
IC811 TC74HC00AF
8 BIT SHIFT REGISTER /HAND GATE
SVIH8DN2041B IC815
L.P. FILTER AMP
SVIBA4560F IC814
FILTER AMP
Q803
Q804
Q805
Q806
SVIH8DN2041B
IC816
L.P. FILTER AMP
Q808
Muting drive
Q807
Emphasis drive
TC74HC123AF
IC818
P-FLOP
Q809~811
Switching control circuit
Q812
Switching
AN78M05R IC701, D707
Regu-lator
Q705
Q701, D705
Q702, D706
Q704, D714
D701~704 RECT
D619
Q703
D711
D710
D709
T700
F1
S700 (POWER)
AC IN
F2
AC OUTLET (UNSWITCHED)
To FL DISPLAY

SU-X999 SU-X999

■ SCHEMATIC DIAGRAM

(Parts list on page 29~34)

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

- **•S201** : CD input selector switch in **"digital"** position
- **•S501** : Speaker selector switch in **"A"** position.
- **•S601~S608** : Input selector switches
  S601: Phono, S602: Tuner, S603: CD, S604: Tape 1
  S605: Tape 2, S606: Aux, S607: Dat, S608: Muting
- **•S609** : Surround-sound switch
- **•S610** : Super bass switch
- **•S700** : Power switch in **"on"** position

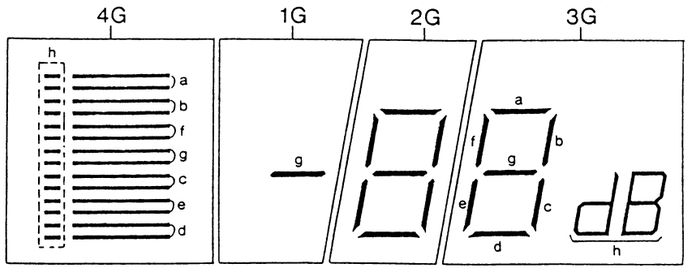
CD signal (Lch), Phono signal (Lch)
Recording signal
Positive voltage lines (+)
Super bass signal
Phase difference signal
Negative voltage lines (−)

- •Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- •Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

•Caution!
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care furing repair.
•Cover the parts boxes made of plastics with aluminum foil.
•Ground the soldering iron.
•Put a conductive mat on the work table.
•Do not touch the legs of IC or LSI with the fingers directly.

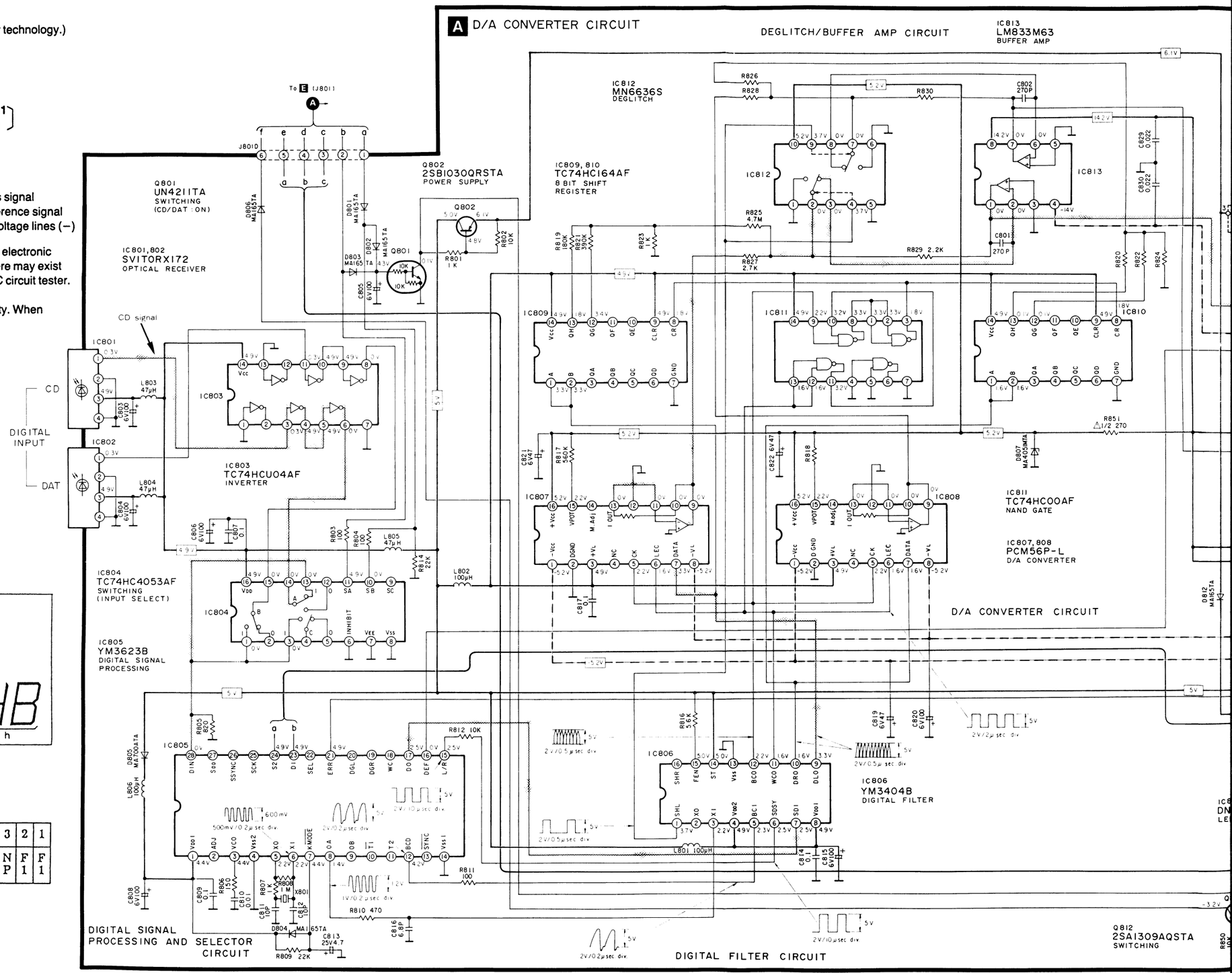
■ DESCRIPTION OF FL PANEL

•GRID ASSIGNMENT



•PIN CONNECTION

Pin No.	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Connection	F 2	F 2	N P	a	4 G	b	c	d	1 G	e	f	2 G	g	3 G	N P	h	3 G	N P	F 1	F 1



9 10 11 12 13 14 15 16 17 18

AMP CIRCUIT

IC813
LM833M63
BUFFER AMP

AUDIO AMP CIRCUIT

IC814
SVIBA4560F
BUFFER AMP

IC815, 816
SVIH8DN2041B
LOW PASS FILTER

Q807
UN4111TA
EMPHASIS DRIVE

Q803, 804
2SC3311AQSTA
EMPHASIS DRIVE

Q805, 806
2SD1450RSTTA
MUTING

IC815
LOW PASS FILTER

IC810

IC811
TC74HC00AF
NAND GATE

IC807, 808
PCM56P-L
D/A CONVERTER

D/A CONVERTER CIRCUIT

Q811
2SA1309AQSTA
SWITCHING

IC816
LOW PASS FILTER

Q808
UN4111TA
MUTING CONT.

IC818
TC74HC123AF
FLIP-FLOP

IC817
DN74LS145S
LED DRIVE

Q809, 810
UN4211TA
SWITCHING

Q812
2SA1309AQSTA
SWITCHING

LED DRIVE CIRCUIT

IC806
M3404B
IGITAL FILTER

B PHONO EQ. AMP/ATTENUATOR/SURROUND AMP/ INPUT SELECTOR CIRCUIT

PHONO L ch R ch
TUNER L ch R ch
CD L ch R ch
AUX L ch R ch
DAT L ch R ch
REC OUT

Phono signal (Lch)

IC101
AN6558F
EQ AMP

PHONO EQ. AMP CIRCUIT

R109, 110 { 47 K ··· For others. 56 K ··· For (EG) area.

Recording signal

IC200
TC4066BF
CD INPUT SELECTOR

IC201
TC9164N
INPUT SELECTOR

INPUT SELECTOR CIRCUIT

IC306
M51131L-702
ATTENUATOR

IC304
AN6557F
BUFFER AMP

IC305
AN6557F
MIXING AMP

Q200
2SC3311AQSTA
SWITCHING

S201
CD INPUT SELECTOR

EXT. INPUT L ch R ch
TAPE 1 RECOUT L ch R ch
PLAYBACK L ch R ch
TAPE 2 RECOUT L ch R ch
PLAYBACK L ch R ch

Q201, 202
2SC3311AQSTA
MUTING

Q203
DTA114ESTP
MUTING CONTROL J206B

ELECTRONIC VOLUME CIRCUIT

Q523, Q524
2SC3311AQSTA 2SA1309AQSTA
MOTOR DRIVE MOTOR DRIVE

MOTOR CONTROL CIRCUIT

C INPUT/OUTPUT TERMINAL CIRCUIT

D MOTOR CONTROL/VOLTAGE CONTROL A CURRENT DRIVE AMP/MUTING/PROTE

13 14 15 16 17 18 19 20 21 22

B PHONO EQ. AMP/ATTENUATOR/SURROUND AMP/ INPUT SELECTOR CIRCUIT

PHONO EQ. AMP CIRCUIT

INPUT SELECTOR CIRCUIT

SURROUND AMP CIRCUIT

ELECTRONIC VOLUME CIRCUIT

C INPUT/OUTPUT TERMINAL CIRCUIT

MOTOR CONTROL CIRCUIT

D MOTOR CONTROL/VOLTAGE CONTROL AMP/POWER AMP/ CURRENT DRIVE AMP/MUTING/PROTECTION/POWER SOURCE CIRCUIT

E TONE AMP/SUPER BASS AMP/FL CONTROL CIRCUIT

SYSTEM CONTROL CIRCUIT

TONE AMP CIRCUIT

SUPER BASS AMP CIRCUIT

F VOLUME CIRCUIT

G LED CIR

H INPUT SELECT SWITC

G LED CIRCUIT

H INPUT SELECT SWITCH/LED DRIVE CIRCUIT

I SURROUND/SUPER BASS SWITCH CIRCUIT

J VOLTAGE CONTROL AMP. CIRCUIT

POWER AMP./CURRENT DRIVE AMP. CIRCUIT

K POWE HEAD

MUTING/PROTECTION CIRCUIT

VOLTAGE CONTROL AMP CIRCUIT

35 36 37 38 39 40 41 42 43 44

IC500
AN7062N
VOLTAGE AMP

Q501,502
2SA1123RSTTA
PRE DRIVE

J VOLTAGE CONTROL AMP. CIRCUIT

POWER AMP./CURRENT DRIVE AMP. CIRCUIT

Q517,518
2SC2631RSTTA
CURRENT STASILIZER

Q519,520
2SA1123RSTTA
CURRENT STASILIZER

Q521,522
2SA992EFP
OVER LOAD DET.

IC501
SV14004
POWER AMP

MUTING/PROTECTION CIRCUIT

IC702
AN7073
PROTECTION/MUTING

Q503,504
2SC1685NCQRS
ICQ ADJ.

Q505,506
2SC3311AQSTA
LIMTER

Q507,508
2SA1309AQSTA
LIMTER

Q509,510
2SC2631RSTTA
AACLASS AMP

Q511,512
2SA1123RSTTA
AACLASS AMP

Q513,514
2SC3298OY
AACLASS AMP

Q515,516
2SA1306OY
AACLASS AMP

VOLTAGE CONTROL AMP CIRCUIT

K POWER SWITCH/SPEAKERS SWITCH/ HEADPHONES JACK CIRCUIT

L SPEAKER TERMINAL CIRCUIT

Q703
UN4211TA
STABILIZER

Q500
2SA992EFP
RELAY DRIVE

Q704
2SB621AQRSTA
REGULATOR

IC701
AN78M05R
REGULATOR

Q701,705
2SD1265OPQ
REGULATOR

Q702
2SB941PQR
REGULATOR

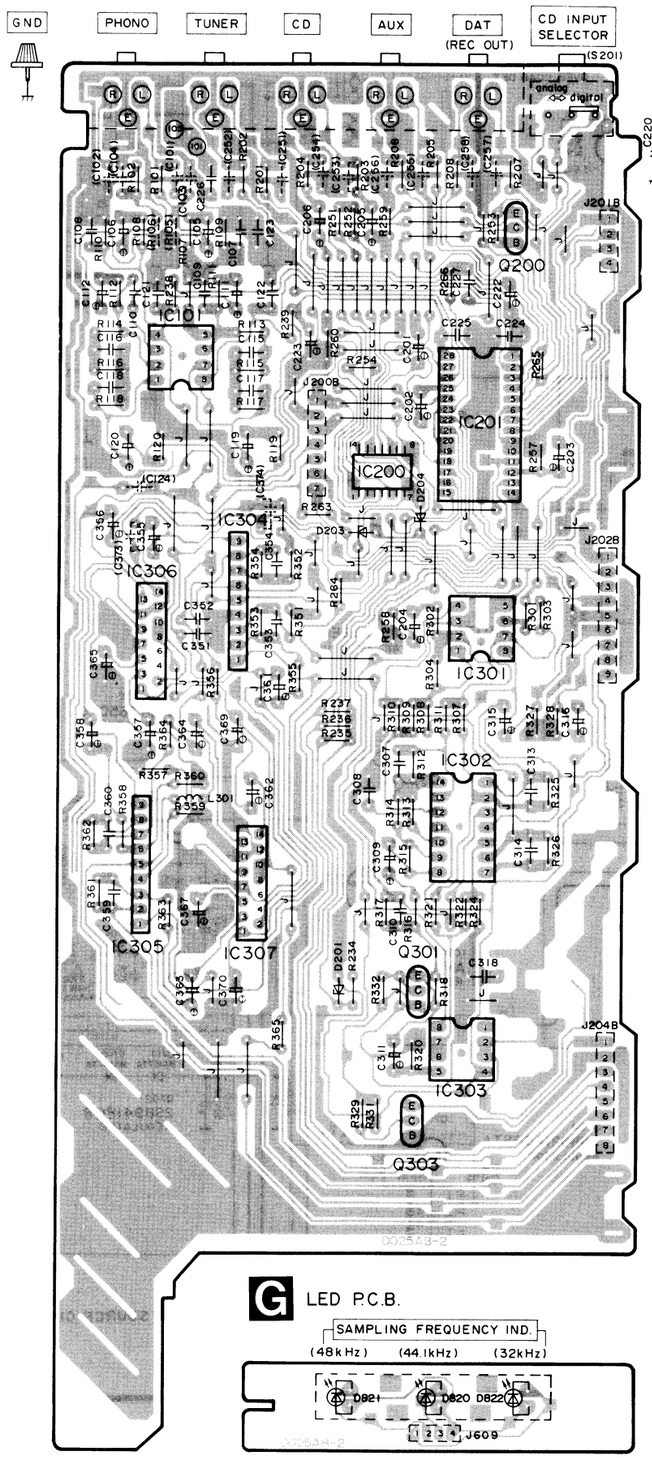
POWER SOURCE CIRCUIT

M AC IN/ AC OUTLET TERMINAL CIRCUIT

SYSTEM A (8~16Ω)
SYSTEM B (8~16Ω)
SPEAKERS

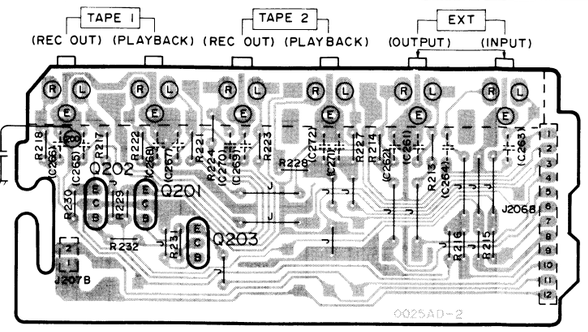
SU-X999 SU-X999

B PHONO EQ. AMP/ATTENUATOR/SRROUND AMP/ INPUT SELECTOR P.C.B.

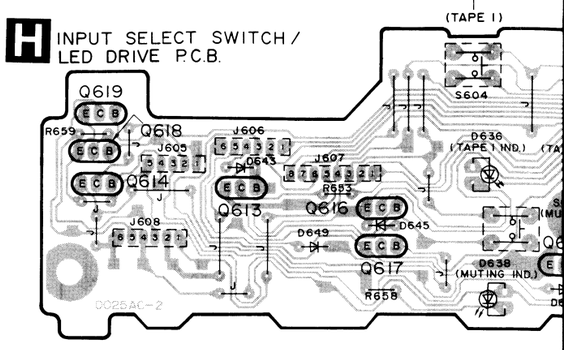


C INPUT/OUTPUT TERMINAL P.C.B.

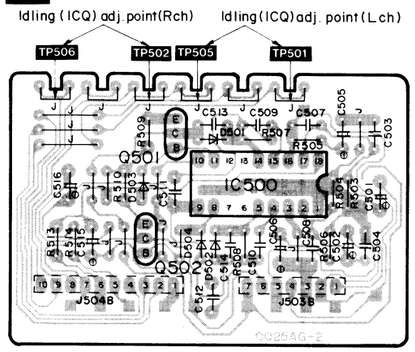
Note
--+--(C) } Capacitors and Resistors indicated by (C) or (R) area.
-----(R) } used only in the EG (F.R.Germany/Italy) area.



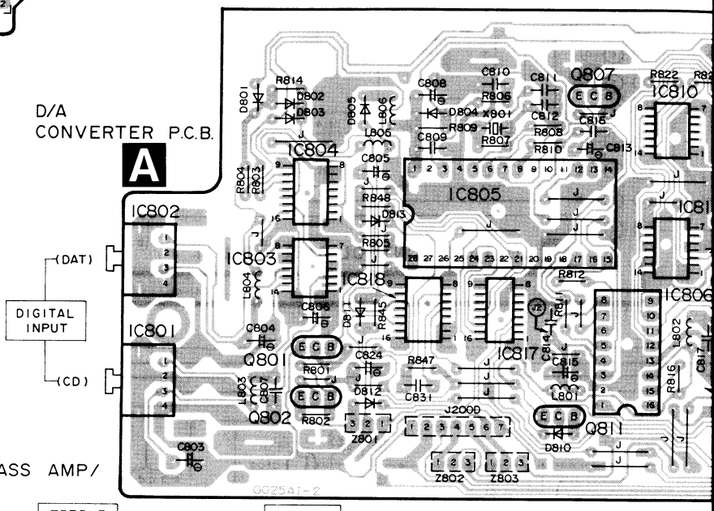
H INPUT SELECT SWITCH/ LED DRIVE P.C.B.



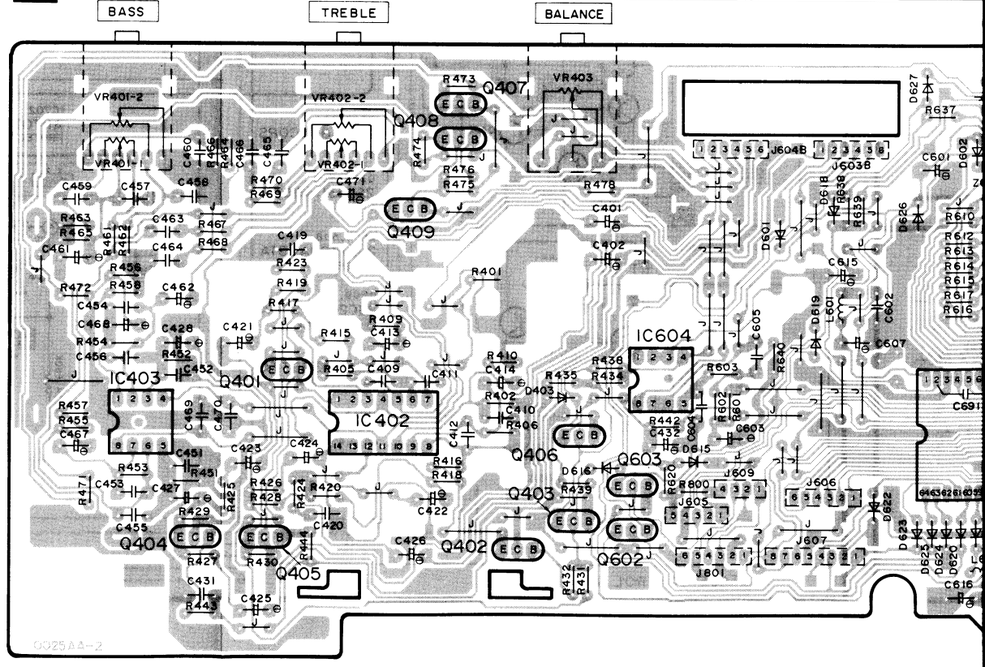
J VOLTAGE CONTROL AMP P.C.B.



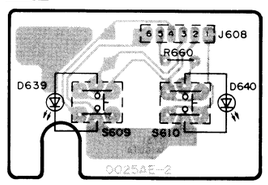
D/A CONVERTER P.C.B. A



E TONE AMP/SUPER BASS AMP/ FL CONTROL P.C.B.

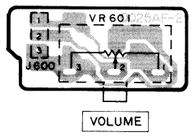


I SURROUND/SUPER BASS SWITCH P.C.B.



G LED P.C.B.

F VOLUME P.C.B.



7 8 9 10 11 12 13 14 15 16 17

SELECT SWITCH / IVE P.C.B.

INPUT SELECTOR

(TAPE 1) (TAPE 2) (AUX) (TUNER) (PHONO)

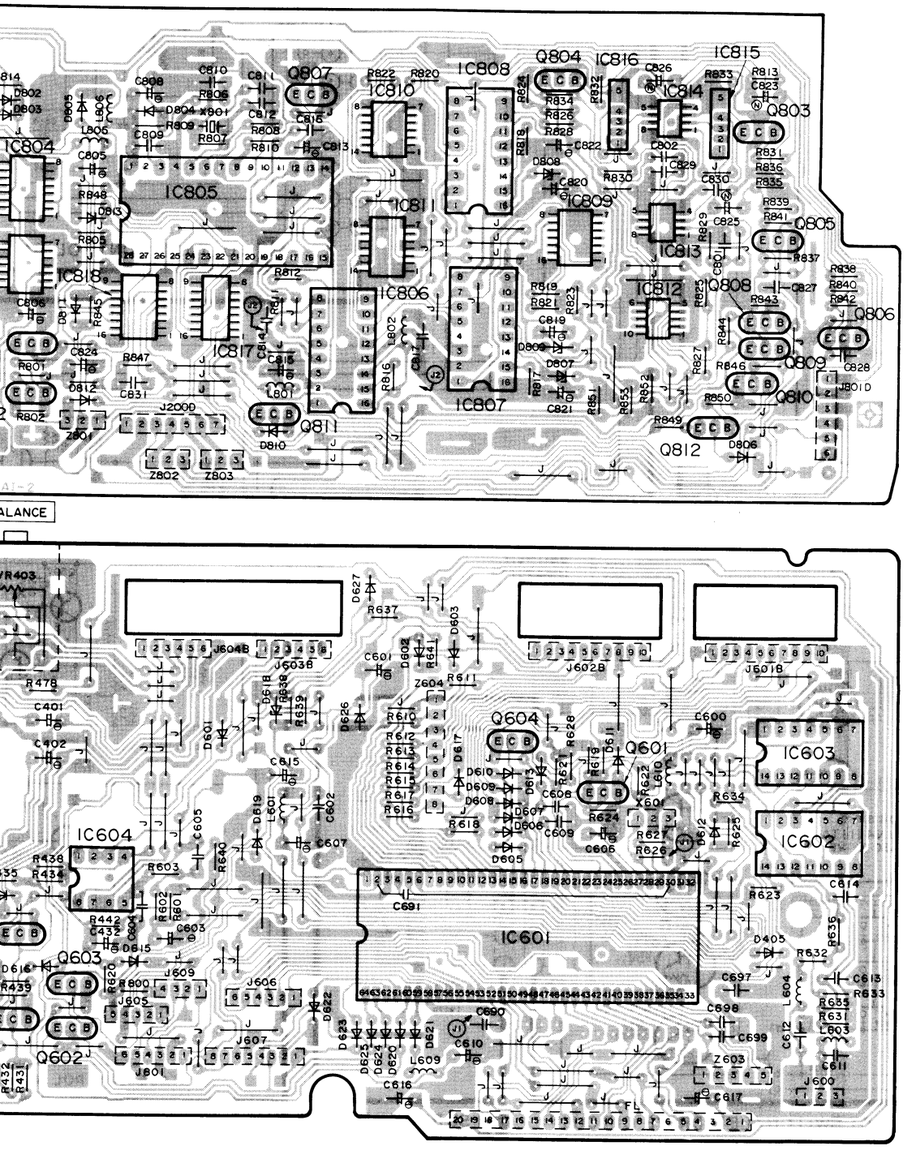
S604 S605 S606 S602 S601

D638 (TAPE 1 IND.) D637 (TAPE 2 IND.) D633 (AUX IND.) D632 (TUNER IND.) D631 (PHONO IND.)

S608 (MUTING) S607 (DAT) S603 (CD)

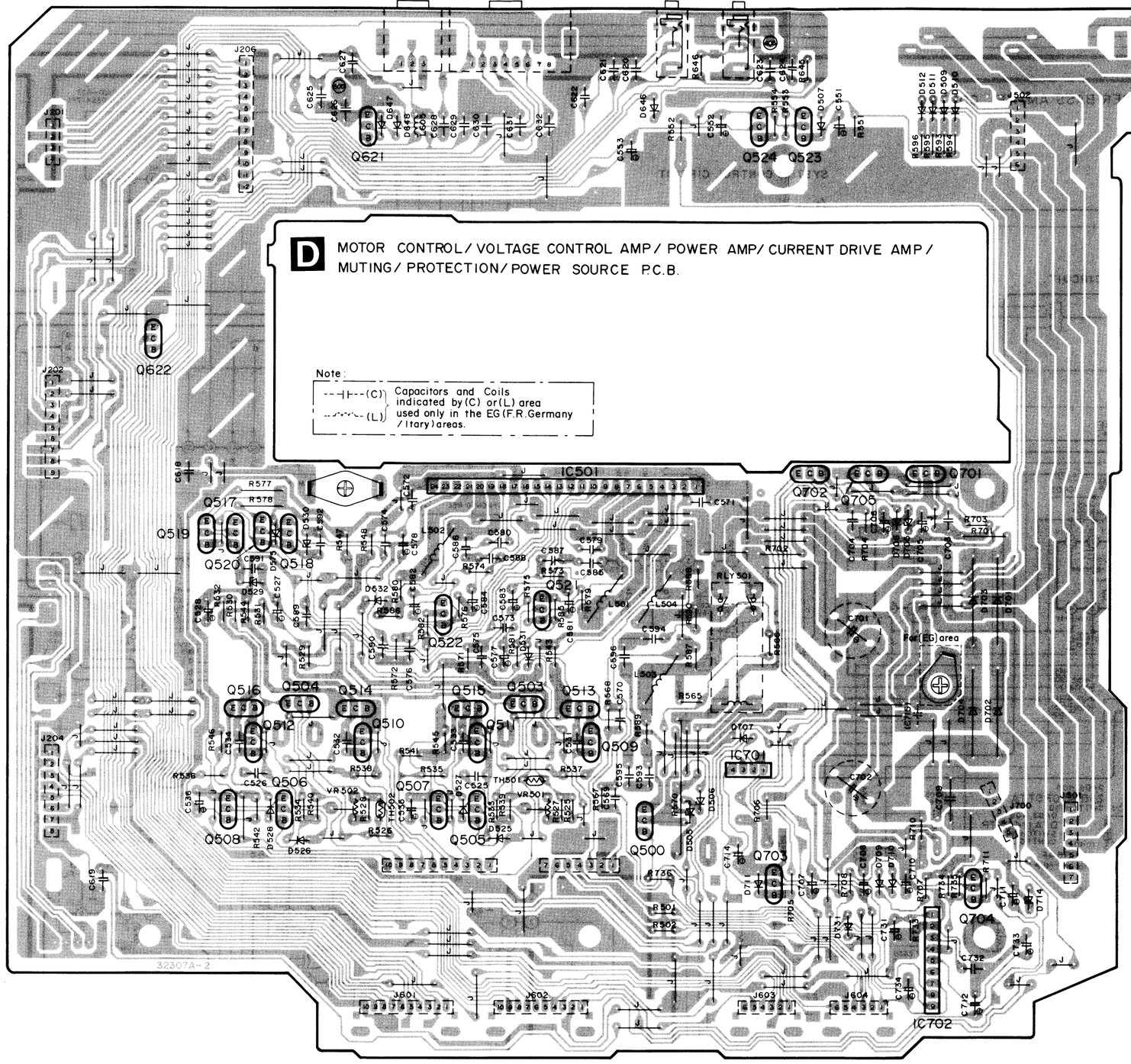
D639 (MUTING IND.) D642 D635 (DAT IND.) D634 (CD IND.)

Q618 Q614 Q613 Q616 Q617 Q612 Q611 Q615



ALANCE

CONTROL (TUNER) (TAPE 1) SYNCHRO REC (TURNTABLE) (CD)



D MOTOR CONTROL / VOLTAGE CONTROL AMP / POWER AMP / CURRENT DRIVE AMP / MUTING / PROTECTION / POWER SOURCE P.C.B.

Note:

---|---(C) Capacitors and Coils indicated by (C) or (L) area used only in the EG (F.R.Germany / Itary) areas.

---|---(L)

Q621 Q524 Q523 Q622 Q517 Q519 Q520 Q518 Q516 Q504 Q514 Q512 Q510 Q515 Q503 Q513 Q511 Q509 Q506 Q507 Q508 Q505 Q500 Q522 Q701 Q702 Q705 Q707 Q704

IC501 IC701 IC702

RLY501

For (EG) area

32307A-2

10 11 12 13 14 15 16 17 18 19 20

(PHONO)

S601

D631 PHONO IND.

Q611

R655

Q615

Q805 Q806 Q809 Q810

IC603 IC602

CONTROL (TUNER) (TAPE)

SYNCHRO REC (TURNTABLE) (CD)

D MOTOR CONTROL / VOLTAGE CONTROL AMP / POWER AMP / CURRENT DRIVE AMP / MUTING / PROTECTION / POWER SOURCE P.C.B.

Note:
---|(C) Capacitors and Coils indicated by (C) or (L) area used only in the EG (F.R.Germany / Italy) areas.
(L)

Q621 Q622 Q524 Q523 Q517 Q519 Q520 Q518 Q522 Q516 Q504 Q514 Q515 Q503 Q513 Q512 Q510 Q511 Q509 Q506 Q507 Q508 Q505 Q500 Q701 Q702 Q705 Q703 Q704 IC501 IC701 IC702 RLY301 TH501 TH502 VR501 VR502

32307A-2

SPEAKERS

(SYSTEM A 8~16Ω) (SURROUND 8~16Ω) (SYSTEM B 8~16Ω)

R ch L ch

(C564) (C563) (C568) (C567) (C565) (C566) (L506) (L505) (L508) (L507)

32307G-2

L SPEAKER TERMINAL P.C.B.

AC OUTLET (UNSWITCHED) AC IN (220V 50/60Hz)

32307C/D-2

F2 T2A F1 T2A

M AC IN/AC OUTLET TERMINAL P.C.B.

32307F-2

T700 POWER TRANSFORMER

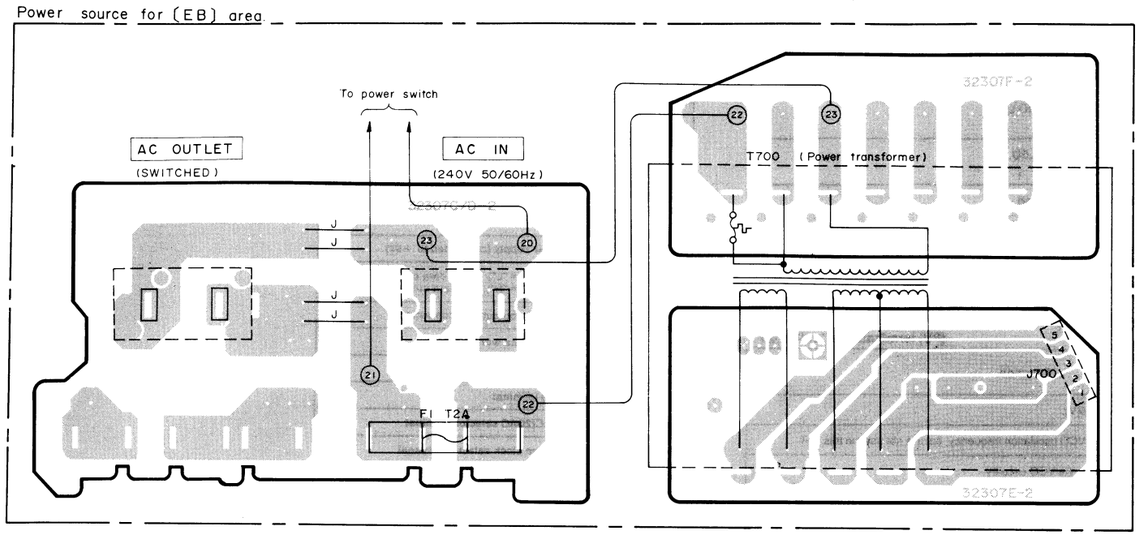
32307E-2

K POWER SWITCH / SPEAKERS SWITCH / HEADPHONES JACK P.C.B.

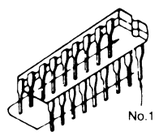
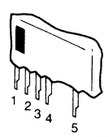
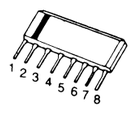
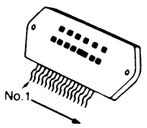
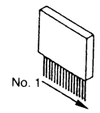
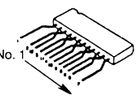
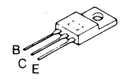
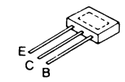
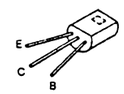
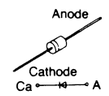
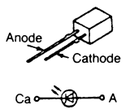
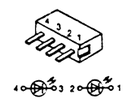
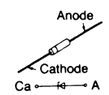
32307H-2

(S700) (S501)

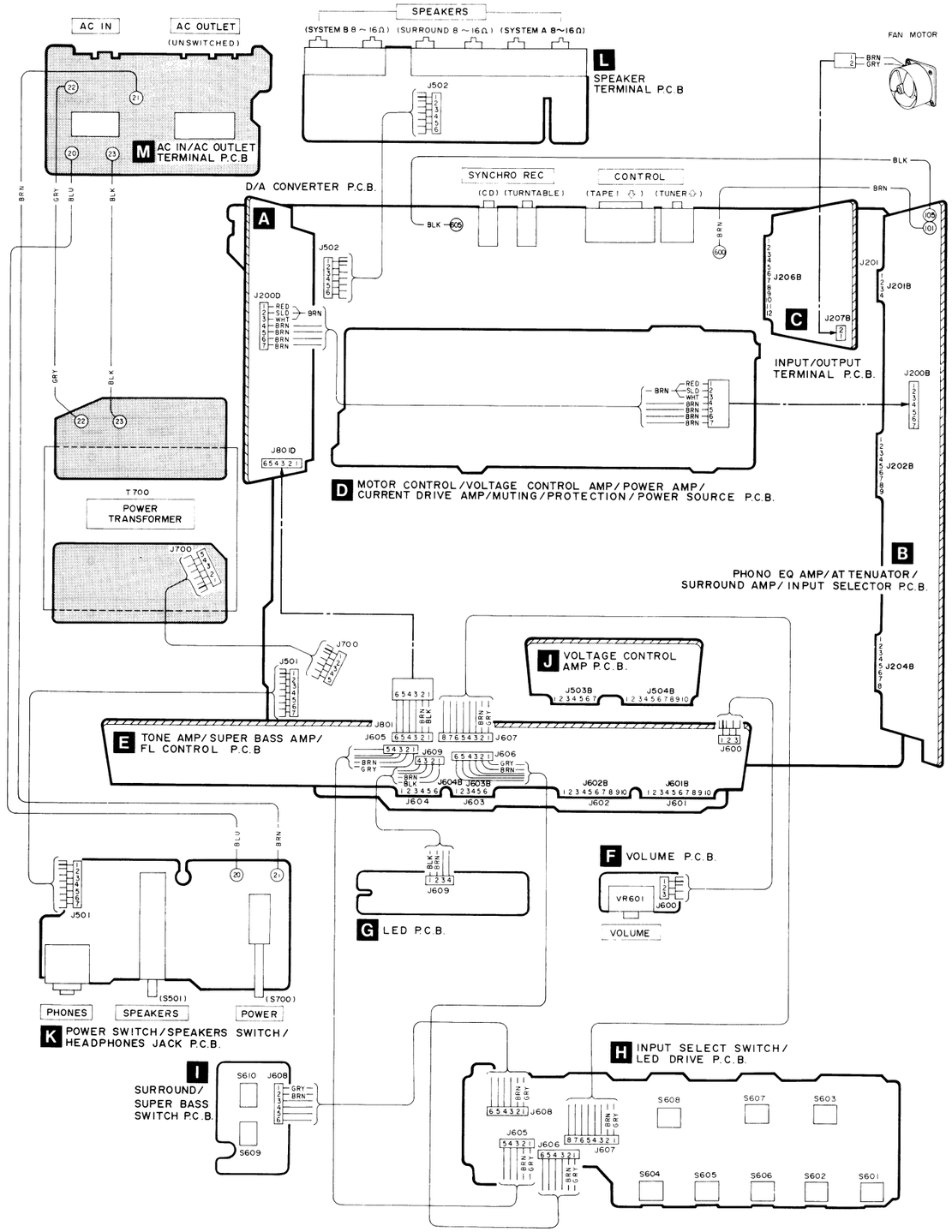
POWER SPEAKERS PHONES



■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

AN6552F AN6558F M5238P LM833M63 SVIBA4560F	8 pin	TC74HC164AF TC74HC00AF	14 pin		SVIH8DN2041B 	AN7073 AN6557F 
MN6636S	10 pin	TC74HC4053AF TC74HC123AF DN74LS145S YM3404B PCM56P-L	16 pin			
AN6554F MN4030B MN4013B TC74HCU04AF TC4066BF	14 pin	AN7062N	18 pin			
		TC9164N YM3623B	28 pin			
		M50754-411SP	64 pin			
SVI4004 24PIN 		AN78M05R 4 pin 		M51131L-702 	2SC32980Y 2SA13060Y 2SD1265-P 2SB941PQR 	2SC3311A-Q, UN4111 2SA1309AQS, UN4211 2SD1450R DTA114ESTP 2SB1030Q 
2SA992E, 2SC2631-Q 2SB621A-R 2SA1123R 2SC1685NCQRS 		MA167 MA29WA MA165 MA700A 		SVDS3V40	LN846RP-C LN873RP-LS LN038417P1 	LN0202RP2 
MA4051, MA4120 MA4082M, MA4062-M MA4140M, MA4300M						

■ WIRING CONNECTION DIAGRAM



■ FUNCTIONS OF IC TERMINALS

•IC601 (M50754-411SP)

Pin No.	I/O	Terminal Name	Function
1	I	V_{DD}	To be connected to a power supply.
2	O	LCD	This is the output terminal for the LED selector indicator of the CD player. At a "HI" level ..... the LED lights up.
3	——	CS2	For ground connection.
4	I	VR1	These are the terminals for the rotary encoder of the volume of VR601.
5		VR0	
6	O	PWM	This terminal outputs the signal for the control of the volume and balance
7	I	$\overline{REC}$	This is the terminal for the detection of recording on the deck.
8	O	SY OUT	This is the terminal for synchro recording on the deck.
9	I	$\overline{DECK}$	This is the terminal for direct operations on the deck.
10	I	CDE	Outputs the signal for the control of CD editing.
11	I	$\overline{CD}$	These are the terminals for the start of synchronization on the CD unit.
12		CD. SY.	
13	I	PL. SY.	These are the terminals for sync recording on the player.
14	O	PL. START	
15	O	PL. $\overline{STOP}$	
16	O	DATA	CLK: This terminal outputs the clock signal for reading serial data. DATA: This terminal outputs the serial data. STB: This terminal outputs the pulse for the control of the setting of the analog switch. The serial data inputted into IC201 is latched by the STB pulse and the switch is set to ON according to data.
17		CLK	
18		STB	
19	O	$\overline{SURR}$	Outputs the signal for the control of SURROUND. At a "LOW" level ..... SURROUND is ON.
20	O	S. $\overline{LOUD}$	Outputs the signal for the control of SUPER DYNAMIC SOUND. At a "LOW" level ..... SUPER DYNAMIC SOUND is ON.
21	O	$\overline{MUT}$ 1	Outputs the signal for the control of muting.
22	——	SYN OUT 2	Unused.
23	O	MUTE	Outputs the −6 dB signal for the control of attenuated muting.
24	I	$\overline{HALT}$	This is the terminal for the detection of power supply.
25	I	REMOTE	Inputs data from the remote controller.
26	——	CN VSS	For ground connection.
27	I	$\overline{RESET}$	This terminal inputs the reset signal.
28	I	X IN	These are the I/O terminals for the oscillating clock signal.
29	O	X OUT	
30	——	X_C IN	Unused.
31		X_C OUT	
32	——	V_{SS}	For ground connection.
33	——	NC	Unused.
35 ~ 37	O	S0 ~ S2	These are the key matrix terminals for input selection.
61 ~ 64	I	K0 ~ K3	

I \ O	35	36	37
61	SUPER DYNAMIC SOUND	——	TAPE
62	SURROUND	DAT	CD
63	MUTING	VD	TUNER
64	——	VTR	PHONO

38	I	V_P	The signal which pulls down the voltage is inputted into this terminal.
39 ~ 46	O	S3 ~ S10	These terminals output the signals for the control of the multi-digital display.
49 ~ 52		G0 ~ G3	
53	O	L TAPE	Outputs the signal for the control of the TAPE LED. At a "HI" level ..... the LED lights up.
54	O	L VTR	Outputs the signal for the control of the VTR LED. At a "HI" level ..... the LED lights up.
55	O	L VD	Outputs the signal for the control of the VD LED. At a "HI" level ..... the LED lights up.
56	O	L TUNER	Outputs the signal for the control of the TUNER LED. At a "HI" level ..... the LED lights up.
57	O	L PHONO	Outputs the signal for the control of the PHONO LED. At a "HI" level ..... the LED lights up.
58	O	L DAT	Outputs the signal for the control of the DAT LED. At a "HI" level ..... the LED lights up.
59	O	VTR REC MUTE	Outputs the signal for muting the VTR recording.
60	O	L MUTE	Outputs the signal for the control of the MUTING LED. At a "HI" level ..... the LED lights up.

•IC805 (YM3623B) DIGITAL INTERFACE RECEPTION

(PU) terminals are "pulled up".

Pin No.	Terminal Name	I/O	Function
1	VDD1	——	This is the power connection terminal (+5 V).
2	ADJ	I	This terminal is for the adjustment of the VCO oscillation frequency, but it is not used in this unit.
3	VCO	I/O	This is the external condenser terminal for the VCO circuitry.
4	VSS2	——	This is the ground connection terminal of the system.
5	XO	O	This is the output terminal for the crystal vibrator (16.9344 MHz).
6	XI	I	This is the input terminal for the crystal vibrator.
7	KMODE	I (PU)	At a high level...the PLL circuitry is activated when the DIN terminal receives an input signal. Otherwise, the crystal vibrator is activated. At a low level...the crystal vibrator is activated, regardless of the DIN terminal input.
8	ØA	O	This terminal outputs a 16.9344-MHz frequency when the crystal vibrator functions. When the PLL circuitry is activated, the frequency varies according to the speed of input data of the DIN terminal (fs = about 16.9344 MHz when it is 44.2 kHz).
9	ØB	O	The frequency of this terminal is divided into a third of that of terminal ØA when the crystal vibrator functions. When the PLL circuitry is activated, the frequency varies according to the speed of input data of the DIN terminal (fs = about 16.9344 when it is 44.2 kHz).
10	T1	I (PU)	This is the input terminal for checking the internal circuitry.
11	T2	I (PU)	This is the input terminal for checking the internal circuitry.
12	BCO	O	Used to output the time-clock signal from the DO terminal.
13	SYNC	O	Used to output the synchronization signal.
14	VSS1	O	This is the ground connection terminal of the system (+0 V).
15	L/R	O	At a high level...data on the left channel is output from the DO terminal. At a low level...data on the right channel is output from the DO terminal.
16	DEF	O	At a high level...input data is emphasized. At a low level...input data is not emphasized.
17	DO	O	Outputs 16-bit data.
18	WC	O	This is the terminal for checking data output to the DO terminal.
19	DIGR	O	This terminal outputs the signal for the right channel.
20	DIGL	O	This terminal outputs the signal for the left channel.
21	ERR	O	Error detection terminal. H = Error is found during parity check L = No errors
22	SEL	I (PU)	
23	S1	O	
24	S2	O	

Input	Output		Output	
SEL	S1	Function	S2	Function
L	L	Copying is not possible	L	DC (except DAT)
	H	Copying is possible	H	DAT
H	L		L	The sampling frequency of the DIN input signal is 44.1 kHz.
	L		H	48 kHz
	H		H	32 kHz
	H		L	——

25	SCK	O	Terminal for the clock-signal of the sub code output.
26	SSYNC	O	For the signal of the sub code.
27	SDO	O	For the output of sub code data.
28	DIN	I (PU)	For the input of data.

•IC806 (YM3404B) Digital filter

Pin No.	Mark	I/O	Function
1	SHL	O	1DAC(ST = "L"): Lch Deglitcher signal 2DAC(ST = "H"): L/Rch Deglitcher signal
2	X0	O	Clock output
3	X1	I	Clock input
4	VDD2	I	Power supply (connected to +5V)
5	BCI	I	Bit clock input (input data)
6	SDSY	I	R/L signal
7	SDI	I	Data input
8	VDD1	I	Power supply (connected to +5V)
9	DLO	O	1DAC(ST = "L"): L/Rch data output terminal 2DAC(ST = "H"): Lch data output terminal
10	RDO	O	Rch data output (not connected)
11	WCO	O	Output data word clock
12	BCO	O	Bit clock output (output data)
13	VSS	I	GND terminal
14	ST	I	1DAC/2DAC selector terminal
15	FEN	I	System clock selector terminal
16	SHR	O	1DAC(SP = "L"): Rch deglitch signal

■ RESISTORS AND CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)

ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique

ECEA	50	M	330
Type	Voltage (50V)	Characteristics	Value (33μF)

- Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
- Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % −20
ECQM	: Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)		
R101	ERDS2TJ471	470 1/4
R102	ERDS2TJ471	470 1/4
R105 (EG)	ERDS2TJ224	220K 1/4
R106 (EG)	ERDS2TJ224	220K 1/4
R107	ERDS2TJ331	330 1/4
R108	ERDS2TJ331	330 1/4
R109 (E, E5, EB)	ERDS2TJ473	47K 1/4
R109 (EG)	ERDS2TJ563	56K 1/4
R110 (E, E5, EB)	ERDS2TJ473	47K 1/4
R110 (EG)	ERDS2TJ563	56K 1/4
R111	ERDS2TJ331	330 1/4
R112	ERDS2TJ331	330 1/4
R113	ERDS2TJ680	68 1/4
R114	ERDS2TJ680	68 1/4
R115	ERDS2TJ184	180K 1/4
R116	ERDS2TJ184	180K 1/4
R117	ERDS2TJ123	12K 1/4
R118	ERDS2TJ123	12K 1/4
R119	ERDS2TJ104	100K 1/4
R120	ERDS2TJ104	100K 1/4
R201	ERDS2TJ102	1K 1/4
R202	ERDS2TJ102	1K 1/4
R203	ERDS2TJ822	8.2K 1/4
R204	ERDS2TJ822	8.2K 1/4
R205	ERDS2TJ102	1K 1/4
R206	ERDS2TJ102	1K 1/4
R207	ERDS2TJ102	1K 1/4
R208	ERDS2TJ102	1K 1/4
R213	ERDS2TJ471	470 1/4
R214	ERDS2TJ471	470 1/4
R215	ERDS2TJ182	1.8K 1/4
R216	ERDS2TJ182	1.8K 1/4
R217	ERDS2TJ472	4.7K 1/4
R218	ERDS2TJ472	4.7K 1/4
R221	ERDS2TJ102	1K 1/4
R222	ERDS2TJ102	1K 1/4
R223	ERDS2TJ821	820 1/4
R224	ERDS2TJ821	820 1/4
R227	ERDS2TJ102	1K 1/4
R228	ERDS2TJ102	1K 1/4
R229	ERDS2TJ392	3.9K 1/4
R230	ERDS2TJ392	3.9K 1/4
R231	ERDS2TJ332	3.3K 1/4
R232	ERDS2TJ332	3.3K 1/4
R234	ERDS2TJ122	1.2K 1/4
R235	ERDS2TJ223	22K 1/4
R236	ERDS2TJ223	22K 1/4
R237	ERDS2TJ223	22K 1/4
R238	ERDS2TJ152	1.5K 1/4
R239	ERDS2TJ152	1.5K 1/4
R251	ERDS2TJ102	1K 1/4
R252	ERDS2TJ103	10K 1/4
R253	ERDS2TJ103	10K 1/4
R254	ERDS2TJ103	10K 1/4
R257	ERDS2TJ224	220K 1/4
R258	ERDS2TJ224	220K 1/4
R259	ERDS2TJ104	100K 1/4
R260	ERDS2TJ104	100K 1/4
R263	ERDS2TJ331	330 1/4
R264	ERDS2TJ331	330 1/4
R265	ERDS2TJ224	220K 1/4
R266	ERDS2TJ224	220K 1/4
R301	ERDS2TJ223	22K 1/4
R302	ERDS2TJ223	22K 1/4
R303	ERDS2TJ223	22K 1/4
R304	ERDS2TJ223	22K 1/4
R307	ERDS2TJ332	3.3K 1/4
R308	ERDS2TJ332	3.3K 1/4
R309	ERDS2TJ223	22K 1/4
R310	ERDS2TJ393	39K 1/4
R311	ERDS2TJ223	22K 1/4
R312	ERDS2TJ393	39K 1/4
R313	ERDS2TJ223	22K 1/4
R314	ERDS2TJ223	22K 1/4
R315	ERDS2TJ223	22K 1/4
R316	ERDS2TJ822	8.2K 1/4
R317	ERDS2TJ562	5.6K 1/4
R318	ERDS2TJ123	12K 1/4
R320	ERDS2TJ224	220K 1/4
R321	ERDS2TJ332	3.3K 1/4
R322	ERDS2TJ332	3.3K 1/4
R324	ERDS2TJ332	3.3K 1/4
R325	ERDS2TJ392	3.9K 1/4
R326	ERDS2TJ392	3.9K 1/4
R327	ERDS2TJ104	100K 1/4
R328	ERDS2TJ104	100K 1/4
R329	ERDS2TJ122	1.2K 1/4
R331	ERDS2TJ105	1M 1/4
R332	ERDS2TJ334	330K 1/4
R351	ERDS2TJ103	10K 1/4
R352	ERDS2TJ103	10K 1/4
R353	ERDS2TJ103	10K 1/4
R354	ERDS2TJ103	10K 1/4
R355	ERDS2TJ122	1.2K 1/4
R356	ERDS2TJ122	1.2K 1/4
R357	ERDS2TJ392	3.9K 1/4
R358	ERDS2TJ392	3.9K 1/4
R359	ERDS2TJ103	10K 1/4
R360	ERDS2TJ103	10K 1/4
R361	ERDS2TJ273	27K 1/4
R362	ERDS2TJ273	27K 1/4
R363	ERDS2TJ103	10K 1/4
R364	ERDS2TJ103	10K 1/4
R365	ERDS2TJ122	1.2K 1/4
R401	ERDS2TJ223	22K 1/4
R402	ERDS2TJ223	22K 1/4
R405	ERDS2TJ563	56K 1/4
R406	ERDS2TJ563	56K 1/4
R409	ERDS2TJ333	33K 1/4
R410	ERDS2TJ333	33K 1/4
R415	ERDS2TJ821	820 1/4
R416	ERDS2TJ821	820 1/4
R417	ERDS2TJ391	390 1/4
R418	ERDS2TJ391	390 1/4
R419	ERDS2TJ273	27K 1/4
R420	ERDS2TJ273	27K 1/4
R423	ERDS2TJ153	15K 1/4
R424	ERDS2TJ153	15K 1/4

Ref. No.	Part No.	Value.
R425	ERDS2TJ152	1.5K 1/4
R426	ERDS2TJ152	1.5K 1/4
R427	ERDS2TJ152	1.5K 1/4
R428	ERDS2TJ152	1.5K 1/4
R429	ERDS2TJ822	8.2K 1/4
R430	ERDS2TJ822	8.2K 1/4
R431	ERDS2TJ102	1K 1/4
R432	ERDS2TJ102	1K 1/4
R434	ERDS2TJ105	1M 1/4
R435	ERDS2TJ334	330K 1/4
R438	ERDS2TJ105	1M 1/4
R439	ERDS2TJ103	10K 1/4
R442	ERDS2TJ272	2.7K 1/4
R443	ERDS2TJ102	1K 1/4
R444	ERDS2TJ102	1K 1/4
R451	ERDS2TJ224	220K 1/4
R452	ERDS2TJ224	220K 1/4
R453	ERDS2TJ474	470K 1/4
R454	ERDS2TJ474	470K 1/4
R455	ERDS2TJ102	1K 1/4
R456	ERDS2TJ102	1K 1/4
R457	ERDS2TJ822	8.2K 1/4
R458	ERDS2TJ822	8.2K 1/4
R461	ERDS2TJ223	22K 1/4
R462	ERDS2TJ223	22K 1/4
R463	ERDS2TJ392	3.9K 1/4
R464	ERDS2TJ392	3.9K 1/4
R465	ERDS2TJ333	33K 1/4
R466	ERDS2TJ333	33K 1/4
R467	ERDS2TJ182	1.8K 1/4
R468	ERDS2TJ182	1.8K 1/4
R469	ERDS2TJ821	820 1/4
R470	ERDS2TJ821	820 1/4
R471	ERDS2TJ152	1.5K 1/4
R472	ERDS2TJ152	1.5K 1/4
R473	ERDS2TJ152	1.5K 1/4
R474	ERDS2TJ152	1.5K 1/4
R475	ERDS2TJ102	1K 1/4
R476	ERDS2TJ102	1K 1/4
R478	ERDS2TJ272	2.7K 1/4
R501	ERDS2TJ222	2.2K 1/4
R502	ERDS2TJ222	2.2K 1/4
R503	ERDS2TJ473	47K 1/4
R504	ERDS2TJ473	47K 1/4
R505	ERDS2TJ392	3.9K 1/4
R506	ERDS2TJ392	3.9K 1/4
R507	ERDS2TJ681	680 1/4
R508 ⚠	ERDS2TJ681	680 1/4
R509 ⚠	ERD25FJ470	47 1/4
R510 ⚠	ERD25FJ470	47 1/4
R513 ⚠	ERD25FJ470	47 1/4
R514	ERDS2TJ823	82K 1/4
R525	ERDS2TJ182	1.8K 1/4
R526	ERDS2TJ182	1.8K 1/4
R527	ERDS2TJ331	330 1/4
R528	ERDS2TJ331	330 1/4
R529	ERDS2TJ332	3.3K 1/4
R530	ERDS2TJ332	3.3K 1/4
R531	ERDS2TJ332	3.3K 1/4
R532	ERDS2TJ332	3.3K 1/4
R533	ERDS2TJ223	22K 1/4
R534	ERDS2TJ223	22K 1/4
R535	ERDS2TJ223	22K 1/4
R536	ERDS2TJ223	22K 1/4
R537 ⚠	ERD25FVJ681T	
R538 ⚠	ERD25FVJ681T	
R539 ⚠	ERD25FJ101	100 1/4
R540 ⚠	ERD25FJ101	100 1/4
R541 ⚠	ERD25FJ101	100 1/4
R542 ⚠	ERD25FJ101	100 1/4
R543 ⚠	ERD25FJ2R2	2.2 1/4
R544 ⚠	ERD25FJ2R2	2.2 1/4
R545 ⚠	ERD25FJ2R2	2.2 1/4
R546 ⚠	ERD25FJ2R2	2.2 1/4
R547 ⚠	ERD25FJ6R8	6.8 1/4
R548 ⚠	ERD25FJ6R8	6.8 1/4
R551	ERDS2TJ103	10K 1/4
R552 ⚠	ERDS1FJ331	330 1/2
R553	ERDS2TJ153	15K 1/4
R554	ERDS2TJ103	10K 1/4
R565	ERDS2TJ473	47K 1/4
R566	ERDS2TJ473	47K 1/4
R567	ERDS2TJ473	47K 1/4
R568	ERDS2TJ473	47K 1/4
R570 ⚠	ERG3ANJ102	1K 3
R571	ER0S2TKF4220	422 1/4
R572	ER0S2TKF4220	422 1/4
R573	ER0S2TKF1000	100 1/4
R574	ER0S2TKF1000	100 1/4
R575	ER0S2TKF1000	100 1/4
R576	ER0S2TKF1000	100 1/4
R577	ERD2FCG271	270 1/4
R578	ERD2FCG271	270 1/4
R579	ERDS2TJ271	270 1/4
R580	ERDS2TJ271	270 1/4
R581	ERDS2TJ153	15K 1/4
R582	ERDS2TJ153	15K 1/4
R585	ERDS2TJ472	4.7K 1/4
R586	ERDS2TJ472	4.7K 1/4
R587 ⚠	ERDS1FJ100	10 1/2
R588 ⚠	ERDS1FJ100	10 1/2
R589 ⚠	ERDS1FJ100	10 1/2
R590 ⚠	ERDS1FJ100	10 1/2
R591 ⚠	ERG2ANJP331S	330 2
R592 ⚠	ERG2ANJP331S	330 2
R593	ERDS2TJ223	22K 1/4
R594	ERDS2TJ223	22K 1/4
R595	ERDS2TJ223	22K 1/4
R596	ERDS2TJ223	22K 1/4
R601	ERDS2TJ223	22K 1/4
R602	ERDS2TJ103	10K 1/4
R603	ERDS2TJ103	10K 1/4
R610	ERDS2TJ102	1K 1/4
R611	ERDS2TJ102	1K 1/4
R612	ERDS2TJ102	1K 1/4
R613	ERDS2TJ102	1K 1/4
R614	ERDS2TJ102	1K 1/4
R615	ERDS2TJ102	1K 1/4
R616	ERDS2TJ102	1K 1/4
R617	ERDS2TJ102	1K 1/4
R618	ERDS2TJ822	8.2K 1/4
R619	ERDS2TJ272	2.7K 1/4
R620	ERDS2TJ122	1.2K 1/4
R621	ERDS2TJ272	2.7K 1/4
R622	ERDS2TJ332	3.3K 1/4
R623	ERDS2TJ223	22K 1/4
R624	ERDS2TJ223	22K 1/4
R625	ERDS2TJ104	100K 1/4
R626	ERDS2TJ105	1M 1/4
R627	ERDS2TJ102	1K 1/4
R628	ERDS2TJ104	100K 1/4
R631	ERDS2TJ102	1K 1/4
R632	ERDS2TJ102	1K 1/4
R633	ERDS2TJ153	15K 1/4
R634	ERDS2TJ153	15K 1/4
R635	ERDS2TJ473	47K 1/4
R636	ERDS2TJ473	47K 1/4
R637	ERDS2TJ330	33 1/4
R638	ERDS2TJ101	100 1/4
R639	ERDS2TJ101	100 1/4
R640	ERDS2TJ105	1M 1/4
R641	ERDS2TJ220	22 1/4
R645	ERDS2TJ102	1K 1/4
R646	ERDS2TJ102	1K 1/4
R651	ERDS2TJ221	220 1/4
R652	ERDS2TJ221	220 1/4
R653	ERDS2TJ221	220 1/4
R654	ERDS2TJ121	120 1/4
R655	ERDS2TJ121	120 1/4
R656	ERDS2TJ221	220 1/4
R657	ERDS2TJ221	220 1/4
R658	ERDS2TJ471	470 1/4
R659	ERDS2TJ121	120 1/4
R660	ERDS2TJ121	120 1/4
R701 ⚠	ERDS1FJ2R2	2.2 1/2
R702 ⚠	ERD25FJ3R3	3.3 1/4
R703	ERDS2TJ682	6.8K 1/4
R704	ERDS2TJ822	8.2K 1/4
R705	ERDS2TJ333	33K 1/4
R706 ⚠	ERDS1FJ100	10 1/2
R707	ERDS2TJ222	2.2K 1/4
R708	ERDS2TJ682	6.8K 1/4
R710 ⚠	ERDS1FJ331	330 1/2
R711	ERDS2TJ272	2.7K 1/4
R733	ERDS2TJ153	15K 1/4
R734	ERDS2TJ684	680K 1/4
R735	ERDS2TJ104	100K 1/4
R736	ERDS2TJ223	22K 1/4
R800	ERDS2TJ221	220 1/4
R801	ERDS2TJ102	1K 1/4
R802	ERDS2TJ103	10K 1/4
R803	ERDS2TJ101	100 1/4
R804	ERDS2TJ101	100 1/4
R805	ERDS2TJ821	820 1/4
R806	ERDS2TJ151	150 1/4
R807	ERDS2TJ102	1K 1/4
R808	ERDS2TJ105	1M 1/4
R809	ERDS2TJ223	22K 1/4
R810	ERDS2TJ471	470 1/4
R811	ERDS2TJ101	100 1/4
R812	ERDS2TJ103	10K 1/4
R813	ERDS2TJ104	100K 1/4
R814	ERDS2TJ223	22K 1/4
R816	ERDS2TJ562	5.6K 1/4
R817	ERDS2TJ564	560K 1/4
R818	ERDS2TJ564	560K 1/4
R819	ERDS2TJ184	180K 1/4
R820	ERDS2TJ184	180K 1/4
R821	ERDS2TJ394	390K 1/4
R822	ERDS2TJ394	390K 1/4
R823	ERDS2TJ102	1K 1/4
R824	ERDS2TJ102	1K 1/4
R825	ERDS2TJ475T	
R826	ERDS2TJ475T	
R827	ERDS2TJ272	2.7K 1/4
R828	ERDS2TJ272	2.7K 1/4
R829	ERDS2TJ222	2.2K 1/4
R830	ERDS2TJ222	2.2K 1/4
R831	ERDS2TJ102	1K 1/4
R832	ERDS2TJ102	1K 1/4
R833	ERDS2TJ474	470K 1/4
R834	ERDS2TJ474	470K 1/4
R835	ERDS2TJ473	47K 1/4
R836	ERDS2TJ473	47K 1/4
R837	ERDS2TJ102	1K 1/4
R838	ERDS2TJ102	1K 1/4
R839	ERDS2TJ102	1K 1/4
R840	ERDS2TJ102	1K 1/4
R841	ERDS2TJ822	8.2K 1/4
R842	ERDS2TJ822	8.2K 1/4
R843	ERDS2TJ474	470K 1/4
R844	ERDS2TJ272	2.7K 1/4
R845	ERDS2TJ104	100K 1/4
R846	ERDS2TJ332	3.3K 1/4
R847	ERDS2TJ224	220K 1/4
R848	ERDS2TJ103	10K 1/4
R849	ERDS2TJ272	2.7K 1/4
R850	ERDS2TJ103	10K 1/4
R851 ⚠	ERDS1FJ331	330 1/2
R852 ⚠	ERDS1FJ331	330 1/2
R853 ⚠	ERDS1FJ331	330 1/2
CAPACITORS(VALUE,VOLTAGE)		
C101, C102 [EG]	RCBC1H180JLY	18P 50
C103 (EG)	RCBC1H151KBY	150P 50
C104 (EG)	RCBC1H151KBY	150P 50
C105	ECEA1HPS3R3	3.3 50
C106	ECEA1HPS3R3	3.3 50
C107	RCBC1H101KBY	100P 50
C108	RCBC1H101KBY	100P 50

Ref. No.	Part No.	Value.
C109	ECBT1H102KB5	0.001 50
C110	ECBT1H102KB5	0.001 50
C111	ECEA0JPS330	33 6.3
C112	ECEA0JPS330	33 6.3
C115	ECFTD223KXL	0.022 25
C116	ECFTD223KXL	0.022 25
C117	ECFTD682KXL	0.0068 25
C118	ECFTD682KXL	0.0068 25
C119	ECEA1HPS3R3	3.3 50
C120	ECEA1HPS3R3	3.3 50
C121	ECFTD103KXL	0.01 25
C122	ECFTD103KXL	0.01 25
C123	ECKD1H473ZF	0.047 50
C124	ECFTD103KXL	0.01 25
(EG)		
C201	ECEA1HPS3R3	3.3 50
C202	ECEA1HPS3R3	3.3 50
C203	ECEA1HPS3R3	3.3 50
C204	ECEA1HPS3R3	3.3 50
C205	ECEA1HPS3R3	3.3 50
C206	ECEA1HPS3R3	3.3 50
C220	ECKD1H473ZF	0.047 50
C222	ECEA1CK220	22 16
C223	ECEA1CK220	22 16
C224	ECKD1H223PF	0.022 50
C225	ECKD1H223PF	0.022 50
C226	ECKD1H473ZF	0.047 50
C227	ECQM1H104JZP	0.1 50
C251	RCBC1H101KBY	100P 50
(EG)		
C252	RCBC1H101KBY	100P 50
(EG)		
C253	RCBC1H101KBY	100P 50
(EG)		
C254	RCBC1H101KBY	100P 50
(EG)		
C255	RCBC1H101KBY	100P 50
(EG)		
C256	RCBC1H101KBY	100P 50
(EG)		
C257	RCBC1H101KBY	100P 50
(EG)		
C258	RCBC1H101KBY	100P 50
(EG)		
C261	RCBC1H101KBY	100P 50
(EG)		
C262	RCBC1H101KBY	100P 50
(EG)		
C263	RCBC1H101KBY	100P 50
(EG)		
C264	RCBC1H101KBY	100P 50
(EG)		
C265	RCBC1H101KBY	100P 50
(EG)		
C266	RCBC1H101KBY	100P 50
(EG)		
C267	RCBC1H101KBY	100P 50
(EG)		
C268	RCBC1H101KBY	100P 50
(EG)		
C269	RCBC1H101KBY	100P 50
(EG)		
C270	RCBC1H101KBY	100P 50
(EG)		
C271	RCBC1H101KBY	100P 50
(EG)		
C272	RCBC1H101KBY	100P 50
(EG)		
C307	RCBC1H680JLY	68P 50
C308	ECFTD823KXL	0.082 25
C309	ECEA1EK3R3B	3.3 25
C310	RCBS1H221KBY	220P 50
C311	ECEA1EK3R3B	3.3 25
C313	RCBS1H820KBY	82P 50
C314	RCBS1H820KBY	82P 50
C315	ECEA1HPS3R3	3.3 50
C316	ECEA1HPS3R3	3.3 50
C318	ECKD1H223PF	0.022 50
C351	ECBT1E103ZF	0.01 25
C352	ECBT1E103ZF	0.01 25
C353	RCBS1H330JLY	33P 50
C354	RCBS1H330JLY	33P 50
C355	ECEA1HPS3R3	3.3 50
C356	ECEA1HPS3R3	3.3 50
C357	ECEA1HPS3R3	3.3 50
C358	ECEA1HPS3R3	3.3 50
C359	RCBS1H330JLY	33P 50
C360	RCBS1H330JLY	33P 50
C361	ECEA1HPS3R3	3.3 50
C362	ECEA1HPS3R3	3.3 50
C363	ECEA1HPS3R3	3.3 50
C364	ECEA1HPS3R3	3.3 50
C365	ECEA1CK220	22 16
C367	ECEA1CK220	22 16
C369	ECEA1CKS100	10 16
C370	ECEA1CKS100	10 16
C373	RCBS1H820KBY	82P 50
(EG)		
C374	RCBS1H820KBY	82P 50
(EG)		
C401	ECEA1EK3R3B	3.3 25
C402	ECEA1EK3R3B	3.3 25
C409	RCBC1H101KBY	100P 50
C410	RCBC1H101KBY	100P 50
C411	RCBS1H100JLY	10P 50
C412	RCBS1H100JLY	10P 50
C413	ECEA1HK2R2B	2.2 50
C414	ECEA1HK2R2B	2.2 50
C419	ECFTD473KXL	0.047 25
C420	ECFTD473KXL	0.047 25
C421	ECEA1HK2R2B	2.2 50
C422	ECEA1HK2R2B	2.2 50
C423	ECEA1HPS3R3	3.3 50
C424	ECEA1HPS3R3	3.3 50
C425	ECEA1HPS3R3	3.3 50
C426	ECEA1HPS3R3	3.3 50
C427	ECEA1HPS3R3	3.3 50
C428	ECEA1HPS3R3	3.3 50
C431	ECFTD683KXL	0.068 25
C432	ECEA1HK010	1 50
C451	RCBC1H101KBY	100P 50
C452	RCBC1H101KBY	100P 50
C453	RCBC1H680JLY	68P 50
C454	RCBC1H680JLY	68P 50
C455	ECBT1H821KB5	820P 50
C456	ECBT1H821KB5	820P 50
C457	ECFTD123KXL	0.012 25
C458	ECFTD123KXL	0.012 25
C459	ECFTD683KXL	0.068 25
C460	ECFTD683KXL	0.068 25
C461	ECEA1HPS010	1 50
C462	ECEA1HPS010	1 50
C463	ECFTD472KXL	4700P 25
C464	ECFTD472KXL	4700P 25
C465	ECFTD223KXL	0.022 25
C466	ECFTD223KXL	0.022 25
C467	ECEA1HPS3R3	3.3 50
C468	ECEA1HPS3R3	3.3 50
C469	ECFTD103KXL	0.01 25
C470	ECFTD103KXL	0.01 25
C471	ECEA1CK470	47 16
C501	ECEA1HPS3R3	3.3 50
C502	ECEA1HPS3R3	3.3 50
C503	RCBC1H151KBY	150P 50
C504	RCBC1H151KBY	150P 50
C505	ECEA1CK220	22 16
C506	ECEA1CK220	22 16
C507	RCBS1H820KBY	82P 50
C508	RCBS1H820KBY	82P 50
C509	ECBT1H102KB5	0.001 50
C510	ECBT1H102KB5	0.001 50
C511	ECFTD103KXL	0.01 25
C512	ECFTD103KXL	0.01 25
C513	RCBS1H6R8KLY	6.8P 50
C514	RCBS1H6R8KLY	6.8P 50
C515	ECEA2AU010	1 100
C516	ECEA1HK010	1 50
C525	ECKD1H333PF	0.033 50
C526	ECKD1H333PF	0.033 50
C527	ECEA1VU330	33 35
C528	ECEA1VU330	33 35
C531	RCBC1H680JLY	68P 50
C532	RCBC1H680JLY	68P 50
C533	RCBC1H680JLY	68P 50
C534	RCBC1H680JLY	68P 50
C535	ECEA1HK010	1 50
C536	ECEA1HK010	1 50
C551	ECEA1CKS100	10 16
C552	ECEA1CK470	47 16
C553	ECEA1CK101	100 16
C561	ECKD1H102KB	1000P 50
(EG)		
C562	ECKD1H102KB	1000P 50
(EG)		
C563	ECKD1H223PF	0.022 50
(EG)		
C564	ECKD1H223PF	0.022 50
(EG)		
C565	ECKD1H102KB	1000P 50
(EG)		
C566	ECKD1H102KB	1000P 50
(EG)		
C567	ECKD1H223PF	0.022 50
(EG)		
C568	ECKD1H223PF	0.022 50
(EG)		
C569	RCBC1H180JLY	18P 50
C570	RCBC1H180JLY	18P 50
C571	RCBS1H330JLY	33P 50
C572	RCBS1H330JLY	33P 50
C573	RCBC1H560JLY	56P 50
C574	RCBC1H560JLY	56P 50
C575	ECKD1H392KB	0.0039 50
C576	ECKD1H392KB	0.0039 50
C577	ECEA1HK010	1 50
C578	ECEA1HK010	1 50
C579	RCBS1H330JLY	33P 50
C580	RCBS1H330JLY	33P 50
C581	ECEA1AU101	100 10
C582	ECEA1AU101	100 10
C583	ECEA1AU101	100 10
C584	ECEA1AU101	100 10
C585	ECBT1H821KB5	820P 50
C586	ECBT1H821KB5	820P 50
C587	ECKD1H472ZF	0.0047 50
C588	ECKD1H472ZF	0.0047 50
C589	ECKD1H333PF	0.033 50
C590	ECKD1H333PF	0.033 50
C591	ECKD1H333PF	0.033 50
C592	ECKD1H333PF	0.033 50
C593	ECFTD473KXL	0.047 25
C594	ECFTD473KXL	0.047 25
C595	ECFTD473KXL	0.047 25
C596	ECFTD473KXL	0.047 25
C597	ECKD1H221KB	220P 50
(EG)		
C598	ECKD1H221KB	220P 50
(EG)		
C600	ECEA1CKS100	10 16
C601	ECEA0JS102	1000 6.3
C602	ECKD1H223PF	0.022 50
C603	ECEA1HK010	1 50
C604	ECFTD333KXL	0.033 25
C605	ECFTD683KXL	0.068 25
C606	ECEA1EK4R7	4.7 25
C607	ECEA1HK010	1 50
C608	ECBT1H102KB5	0.001 50
C609	ECBT1H102KB5	0.001 50
C610	ECEA1CKS100	10 16
C611	RCBC1H101KBY	100P 50
C612	RCBC1H101KBY	100P 50

Ref. No.	Part No.	Value.
C613	RCBS1H221KBY	220P 50
C614	RCBS1H221KBY	220P 50
C615	ECEA1VKA330	33 35
C616	ECEA1HK2R2B	2.2 50
C617	ECEA1HK2R2B	2.2 50
C618	ECKD1H223PF	0.022 50
C619	ECFTD103KXL	0.01 25
C620	ECKF1H103ZF	0.01 50
C621	ECKF1H103ZF	0.01 50
C622	ECKF1H103ZF	0.01 50
C623	ECKF1H103ZF	0.01 50
C624	ECKF1H103ZF	0.01 50
C625	ECKF1H103ZF	0.01 50
C626	ECKD1H473ZF	0.047 50
C627	ECKF1H103ZF	0.01 50
C628	ECKF1H103ZF	0.01 50
C629	ECKD1H102KB	1000P 50
C630	ECKF1H103ZF	0.01 50
C631	ECKF1H103ZF	0.01 50
C632	ECKF1H103ZF	0.01 50
C690	ECKD1H473ZF	0.047 50
C691	ECKD1H473ZF	0.047 50
C697	ECQV1H474JZ3	0.47 50
C698	RCBS1H221KBY	220P 50
C699	RCBS1H221KBY	220P 50
C700 ⚠	ECKDKC103PF2	0.01 125
C701	ECES1JU682U	6800 63
C702	ECES1JU682U	6800 63
C703	ECFTD103KXL	0.01 25
C704	ECFTD103KXL	0.01 25
C705	ECEA1CU470	47 16
C706	ECEA1CU470	47 16
C707	ECEA1CK220	22 16
C708	ECEA1CK220	22 16
C709	ECQE2104KS	0.1 250
C710	ECEA1HK4R7	4.7 50
C711	ECEA1VK100B	10 35
C712	ECEA1VK100B	10 35
C714	ECEA1HK010	1 50
C715	ECFTD473KXL	0.047 25
(EG)		
C731	ECEA0JS331	330 6.3
C732	ECFTD123KXL	0.012 25
C733	ECEA0JK330	33 6.3
C734	ECEA1CKS100	10 16
C801	RCBS1H271KBY	270P 50
C802	RCBS1H271KBY	270P 50
C803	ECEA0JK101	100 6.3
C804	ECEA0JK101	100 6.3
C805	ECEA0JK101	100 6.3
C806	ECEA0JK101	100 6.3
C807	ECFD1H104ZF	0.1 50
C808	ECEA0JK101	100 6.3
C809	ECFD1H104ZF	0.1 50
C810	ECQM1H103JZ	0.01 50
C811	RCBS1H100JLY	10P 50
C812	RCBS1H100JLY	10P 50
C813	ECEA1EK4R7	4.7 25
C814	ECFD1H104ZF	0.1 50
C815	ECEA0JK101	100 6.3
C816	RCBS1H6R8KLY	6.8P 50
C817	ECFD1H104ZF	0.1 50
C819	ECEA0JK470	47 6.3
C820	ECEA0JK101	100 6.3
C821	ECEA0JK470	47 6.3
C822	ECEA0JK470	47 6.3
C823	ECEA1CKN100B	10 16
C824	ECEA1EK4R7	4.7 25
C825	ECEA1EKN4R7	
C826	ECEA1EKN4R7	
C827	ECBT1H102KB5	0.001 50
C828	ECBT1H102KB5	0.001 50
C829	ECBT1E223ZF	0.022 25
C830	ECBT1E223ZF	0.022 25
C831	ECFD1H104ZF	0.1 50

■ REPLACEMENT PARTS LIST

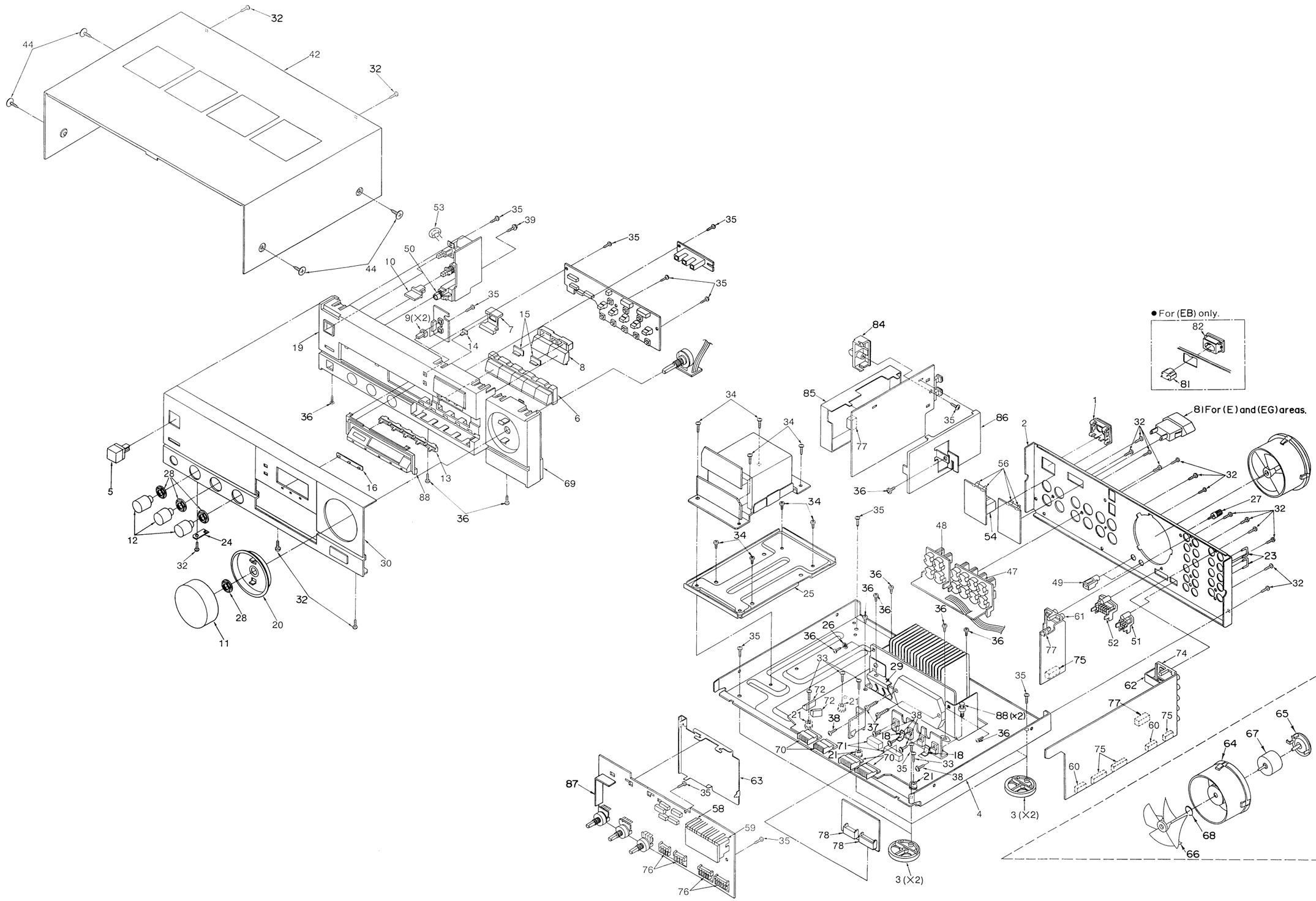
Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

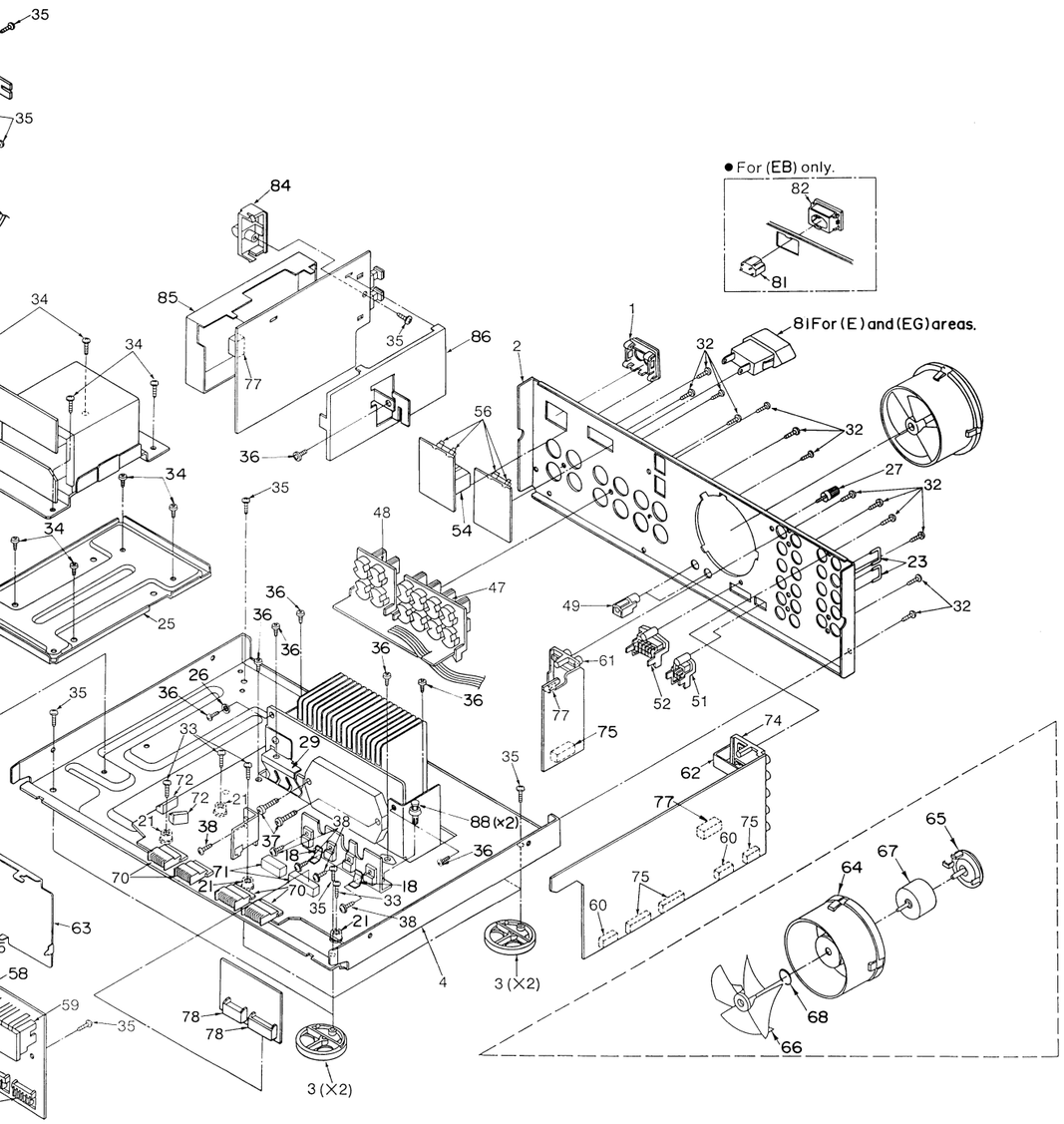
Ref. No.	Part No.	Description
INTEGRATED CIRCUITS		
IC101	AN6558F	I.C. PHONO EQ AMP
IC200	TC4066BF	I.C. CD INPUT SELECTOR
IC201	TC9164N	I.C. INPUT SELECTOR
IC301	M5238P	I.C. PHASE SHIFT
IC302	AN6554F	I.C. MIXING AMP
IC303	AN6558F	I.C. BUFFER AMP
IC304	AN6557F	I.C. BUFFER AMP
IC305	AN6557F	I.C. MIXING AMP
IC306	M51131L-702	I.C. ATTENUATOR
IC307	M51131L-702	I.C. ATTENUATOR
IC402	AN6554F	I.C. PRE AMP
IC403	AN6558F	I.C. TONE AMP
IC500	AN7062N	I.C. VOLTAGE AMP
IC501	SVI4004	I.C., POWER AMP
IC601	M50754-411SP	I.C. MICRO COMPUTER
IC602	MN4030B	I.C., LOGIC
IC603	MN4013B	I.C. LOGIC
IC604	AN6552F	I.C. BUFFER AMP
IC701	AN78M05R	I.C. REGULATOR
IC702	AN7073	I.C. PROTECTION/MUT
IC801	SVITORX172	I.C. OPTICAL REC.
IC802	SVITORX172	I.C. OPTICAL REC.
IC803	TC74HCU04AF	I.C. INVERTER
IC804	TC74HC4053AF	I.C. DIGITAL INPUT
IC805	YM3623B	I.C. DIGITAL SIGNAL
IC806	YM3404B	I.C. DIGITAL FILTER
IC807	PCM56P-L	I.C. D/A CONVERTER
IC808	PCM56P-L	I.C. D/A CONVERTER
IC809	TC74HC164AF	I.C. 8 BIT SIFT RESISTOR
IC810	TC74HC164AF	I.C. 8 BIT SIFT RESISTOR
IC811	TC74HC00AF	I.C. NAND GATE
IC812	MN6636S	I.C. ANALOG SWITCH
IC813	LM833M63	I.C., BUFFER AMP
IC814	SVIBA4560F	I.C. BUFFER AMP
IC815	SVIH8DN2041B	I.C. LOW PASS FILTER
IC816	SVIH8DN2041B	I.C. LOW PASS FILTER
IC817	DN74LS145S	I.C. LED DRIVE
IC818	TC74HC123AF	I.C., MULTIVIBRATOR
TRANSISTORS		
Q200	2SC3311A-Q	TRANSISTOR
Q201	2SC3311A-Q	TRANSISTOR
Q202	2SC3311A-Q	TRANSISTOR
Q203	DTA114ESTP	TRANSISTOR
Q301	2SD1450R	TRANSISTOR
Q303	DTA114ESTP	TRANSISTOR
Q401	2SD1450R	TRANSISTOR
Q402	2SD1450R	TRANSISTOR
Q403	DTA114ESTP	TRANSISTOR
Q404	2SD1450R	TRANSISTOR
Q405	2SD1450R	TRANSISTOR
Q406	DTA114ESTP	TRANSISTOR
Q407	2SC3311A-Q	TRANSISTOR
Q408	2SC3311A-Q	TRANSISTOR
Q409	DTA114ESTP	TRANSISTOR
Q500	2SA992E	TRANSISTOR
Q501	2SA1123R	TRANSISTOR
Q502	2SA1123R	TRANSISTOR
Q503	2SC1685NCQRS	TRANSISTOR
Q504	2SC1685NCQRS	TRANSISTOR
Q505	2SC3311A-Q	TRANSISTOR
Q506	2SC3311A-Q	TRANSISTOR
Q507	2SA1309AQS	TRANSISTOR
Q508	2SA1309AQS	TRANSISTOR
Q509	2SC2631-Q	TRANSISTOR
Q510	2SC2631-Q	TRANSISTOR
Q511	2SA1123R	TRANSISTOR
Q512	2SA1123R	TRANSISTOR
Q513	2SC32980Y	TRANSISTOR
Q514	2SC32980Y	TRANSISTOR
Q515	2SA13060Y	TRANSISTOR
Q516	2SA13060Y	TRANSISTOR
Q517	2SC2631-Q	TRANSISTOR
Q518	2SC2631-Q	TRANSISTOR
Q519	2SA1123R	TRANSISTOR
Q520	2SA1123R	TRANSISTOR
Q521	2SA992E	TRANSISTOR
Q522	2SA992E	TRANSISTOR
Q523	2SC3311A-Q	TRANSISTOR
Q524	2SA1309AQS	TRANSISTOR
Q601	UN4111	TRANSISTOR
Q602	UN4111	TRANSISTOR
Q603	UN4211	TRANSISTOR
Q604	2SC3311A-Q	TRANSISTOR
Q611	UN4211	TRANSISTOR
Q612	UN4211	TRANSISTOR
Q613	UN4211	TRANSISTOR
Q614	UN4211	TRANSISTOR
Q615	UN4211	TRANSISTOR
Q616	UN4211	TRANSISTOR
Q617	UN4211	TRANSISTOR
Q618	UN4111	TRANSISTOR
Q619	UN4111	TRANSISTOR
Q621	2SC3311A-Q	TRANSISTOR
Q622	UN4211	TRANSISTOR
Q701	2SD1265-P	TRANSISTOR
Q702	2SB941PQR	TRANSISTOR
Q703	UN4211	TRANSISTOR
Q704	2SB621A-R	TRANSISTOR
Q705	2SD1265-P	TRANSISTOR
Q801	UN4211	TRANSISTOR
Q802	2SB1030Q	TRANSISTOR
Q803	2SC3311A-Q	TRANSISTOR
Q804	2SC3311A-Q	TRANSISTOR
Q805	2SD1450R	TRANSISTOR
Q806	2SD1450R	TRANSISTOR
Q807	UN4111	TRANSISTOR
Q808	UN4111	TRANSISTOR
Q809	UN4211	TRANSISTOR
Q810	UN4211	TRANSISTOR
Q811	2SA1309A-R	TRANSISTOR
Q812	2SA1309AQS	TRANSISTOR
DIODES		
D201	MA4051-M	DIODE
D203	MA4082	DIODE
D204	MA4082	DIODE
D403	MA165	DIODE
D405	MA165	DIODE
D501	MA167	DIODE
D502	MA167	DIODE
D503	MA29WA	DIODE
D504	MA29WA	DIODE
D505	MA4120	DIODE
D506	MA4120	DIODE
D507	MA165	DIODE
D509	MA167	DIODE
D510	MA167	DIODE
D511	MA167	DIODE
D512	MA167	DIODE
D525	MA165	DIODE
D526	MA165	DIODE
D527	MA165	DIODE
D528	MA165	DIODE
D529	MA4062-M	DIODE
D530	MA4062-M	DIODE
D531	MA165	DIODE
D532	MA165	DIODE
D575	MA29WA	DIODE
D601	MA165	DIODE

Ref. No.	Part No.	Description
D602	MA165	DIODE
D603	MA165	DIODE
D605	MA165	DIODE
D606	MA165	DIODE
D607	MA165	DIODE
D608	MA700A	DIODE
D609	MA700A	DIODE
D610	MA700A	DIODE
D611	MA165	DIODE
D612	MA165	DIODE
D613	MA165	DIODE
D615	MA165	DIODE
D616	MA165	DIODE
D617	MA165	DIODE
D618	MA4082	DIODE
D619	MA165	DIODE
D620	MA165	DIODE
D621	MA165	DIODE
D622	MA165	DIODE
D623	MA165	DIODE
D624	MA165	DIODE
D625	MA165	DIODE
D626	MA165	DIODE
D627	MA165	DIODE
D631	LN846RP-C	L.E.D
D632	LN846RP-C	L.E.D
D633	LN846RP-C	L.E.D
D634	LN0202RP2	DIODE
D635	LN0202RP2	DIODE
D636	LN846RP-C	L.E.D
D637	LN846RP-C	L.E.D
D638	LN873RP-LS	DIODE
D641	MA165	DIODE
D642	MA165	DIODE
D643	MA165	DIODE
D644	MA165	DIODE
D645	MA165	DIODE
D646	MA165	DIODE
D647	MA165	DIODE
D648	MA165	DIODE
D649	MA165	DIODE
D701 ⚠	SVDS3V40	DIODE
D702 ⚠	SVDS3V40	DIODE
D703 ⚠	SVDS3V40	DIODE
D704 ⚠	SVDS3V40	DIODE
D705	MA4140-M	DIODE
D706	MA4140-M	DIODE
D707	MA29WA	DIODE
D709	MA167	DIODE
D710	MA167	DIODE
D711	MA165	DIODE
D714	MA4300M	DIODE
D731	MA165	DIODE
D801	MA165	DIODE
D802	MA165	DIODE
D803	MA165	DIODE
D804	MA165	DIODE
D805	MA700	DIODE
D806	MA165	DIODE
D807	MA4051-M	DIODE
D808	MA4051-M	DIODE
D809	MA4051-M	DIODE
D810	MA29WA	DIODE
D811	MA165	DIODE
D812	MA165	DIODE
D813	MA165	DIODE
D820	LN038417P1	DIODE
D821	LN038417P1	DIODE
D822	LN038417P1	DIODE
VARIABLE RESISTORS		
VR401	EWC2XAF20C15	V.R. BASS
VR402	EWC2XAF20C15	V.R. TREBLE
VR403	EWHFDAF20G15	V.R. BALANCE
VR501	EVND4AA00B52	V.R. IDLING ADJ.(LCH)
VR502	EVND4AA00B52	V.R. IDLING ADJ.(RCH)
VR601	EVQWX2F2045B	V.R., VOLUME ENCODER
THERMISTORS AND VARISTORS		
TH501	ERTD2ZHK104S	TERMISTOR
TH502	ERTD2ZHK104S	TERMISTOR
COILS AND TRANSFORMERS		
L301	RLQZP100KT-Y	COIL
L501	SLQY07G-40	CHOKE COIL
L502	SLQY07G-40	CHOKE COIL
L503	SLQY07G-40	CHOKE COIL
L504	SLQY07G-40	CHOKE COIL
L505 (EG)	SLQY07G-40	CHOKE COIL
L506 (EG)	SLQY07G-40	CHOKE COIL
L507 (EG)	SLQY07G-40	CHOKE COIL
L508 (EG)	SLQY07G-40	CHOKE COIL
L601	RLQZP101KT-Y	COIL
L603	ELEXT330KA9	COIL
L604	ELEXT330KA9	COIL
L605	ELEPK1R2MA	COIL
L609	ELEXT330KA9	COIL
L610	RLQZP1R2KT-Y	CHOKE COIL
L801	RLQZP101KT-Y	COIL
L802	RLQZP101KT-Y	COIL
L803	ELEXT470KA9	COIL
L804	ELEXT470KA9	COIL
L805	ELEXT470KA9	COIL
L806	RLQZP101KT-Y	COIL
T700 ⚠ (EB)	SLT5P288-W	POWER TRANSFORMER
T700 ⚠ (E, E5, EG)	SLT5P289-W	POWER TRANSFORMER
COMPONENT COMBINATIONS		
Z603	EXBF5E103J	COMBINATION PART
Z604	EXBF8E103J	COMPONENT COMBINATION
Z801	EXCEMT103DC	CNMBINATION COM
Z802	EXCEMT103DC	CNMBINATION COM
Z803	EXCEMT103DC	CNMBINATION COM
DISPLAYS		
FL1	SADFV217	DISPLAY TUBE
FUSES		
F1 ⚠ (E, E5, EG)	XBA2C20TB0	FUSE 250V, T2A
F2 ⚠	XBA2C20TB0	FUSE 250V, T2A
SWITCHES		
S201	SSS153	SW, CD INPUT SELECTOR
S501	SSH1073	SW, SPEAKER
S601	EVQQB005R	SW, PHONO
S602	EVQQB005R	SW, TUNER
S603	EVQQB005R	SW, CD
S604	EVQQB005R	SW, TAPE 1
S605	EVQQB005R	SW, TAPE 2
S606	EVQQB005R	SW, AUX
S607	EVQQB005R	SW, DAT
S608	EVQQB005R	SW, MUTING
S609	EVQQLY07K	SW, SURROUND
S610	EVQQLY07K	SW, S.BASS
S700 ⚠	SSH1071	SW, POWER
RELAYS		
RL501	SSY134	RELAY
OTHERS		
X601	EF0FC4004A4	CERAMIC FILTER
X801	SVQAT1923-S	CRYSTAL OSCILLATOR

■ EXPLODED VIEW

(Parts list on page 37)





Ref. No.	Part No.	Description
CABINET AND CHASSIS		
1	SJS9231A	AC INLET COVER
2	SGP7170-12E	REAR PANEL
(E)		
2	SGP7170-12F	REAR PANEL
(EG)		
2	SGP7170-12J	REAR PANEL
(E5)		
2	SGP7170-13C	REAR PANEL
(EB)		
3	SKL307	FOOT
4	SKU11650-3	BOTTOM BOARD
5	SBC666-1	BUTTON, POWER
6	SBC983B	BUTTON, SELECTOR
7	SBC1023	BUTTON, MUTING
8	SBC1024-1A	BUTTON, DIGITAL
9	SBC1025	BUTTON, BASS
10	SBC928	BUTTON, SPEAKER
11	SBN1224	KNOB, VOLUME
12	RGW0016	KNOB, TONE
13	SDL97	SMOKE PLATE
14	SDL98	SMOKE PLATE
15	SDL99	SMOKE PLATE
16	SDL100	SMOKE SLATE
18	SUS227	SPRING
19	SGXUX950-KE1	FRONT GRILLE
20	SGX9036	ORNAMENT
21	SHE187-2	HOLDER
23	SJP9205-2Y	SHORTING PIN
24	SMC1274	BRACKET
25	SMN2078-2	BRACKET
26	XWE3E13	WASHER
27	SNE2123	SCREW
28	SNE4021-1	NUT
29	SUS832	SPRING
30	RYP0069	FRONT PANEL
32	XTBS3+8JFZ1	SCREW
33	XTB3+20J	SCREW
34	XTB3+6FFZ	SCREW
35	XTB3+8G	SCREW
36	XTB3+8J	SCREW
37	XTB3+16J	SCREW
38	XTW3+8T	SCREW
39	XTWS3+8T	SCREW
42	SKC2071K163	CABINET
44	SNE2129-1	SCREW
47	SJF4818-1	TERMINAL BOARD, SP. A
48	SJF4442-1	TERMINAL BOARD, SP. B
49	SJJ141	M3 JACK
50	SJJ71E	JACK, HEADPHONE
51	SJS306	SOCKET(3P), TUNER
52	SJS804	SOCKET(8P), DECK
53	SMX897	COVER(CAPACITOR)
54 ⚠	SJS9231-1B	AC INLET
56 ⚠	SJT388	FUSE HOLDER
58	SMN2056-1	BRACKET
59	SMN2056	BRACKET
60	SMN2043	ANGLE
61	SJF3062-13N	TERMINAL BOARD
62	SMC6453	SHIELD PLATE
63	SMC6441	SHIELD PLATE
64	SHE233	FAN CASE
65	SHE234	CAP
66	SHE232	FAN
67	MDN-4RB4MXA	MOTOR
68	SUS271	SPRING
69	SGXUX950-KE2	FRONT GRILLE
70	SJS50680WL	SOCKET(6P), J603, J604
70	SJS51080WL	SOCKET(10P), J601, J602
71	SJS50778JQ	SOCKET(7P), J503
71	SJS51078JQ	CONNECTOR(10P), J504
72	SJT30543-V	CONNECTOR(5P), J700
72	SJT30740LX-V	CONNECTOR(7P), J501
74	SJF3062-22N	TERMINAL BOARD
75	SJT30439MB	CONNECTOR (4P), J201B
75	SJT30839MB	CONNECTOR(8P), J204B
75	SJT30939MB	CONNECTOR(9P), J202B
75	SJT31239MB	CONNECTOR (12P), J206B
76	SJT30647WL	CONNECTOR(6P), J603B, J604B
76	SJT31047WL	CONNECTOR(10P), J601B, J602B
77	SJT3213	CONNECTOR(2P), J207B
77	SJT3613	CONNECTOR(6P), J801D
77	SJT3709	CONNECTOR(7P), J200B
78	SJT30745JQ	CONNECTOR(7P), J503B
78	SJT31045JQ	CONNECTOR(10P), J504B
81 ⚠ (E, E5, EG)	SJS9225	AC OUTLET
81 ⚠ (EB)	SJS9332B	AC OUTLET
82 (EB)	SJS9332A	AC OUTLET COVER
83	SGX7977-1A	ORNAMENT
84	SGX7967	ORNAMENT
85	RSC0033	COVER
86	RSC0034	COVER
87	SMC1297	SHIELD COVER
88	SHR9094	LATCH

Ref. No.	Part No.	Description
PACKING MATERIAL		
P1	RUB50RK05W	PROTECTION BAG
P2	RPG0101	PACKING CASE
P3	SPS5182	PAD
P4	SPS5183	PAD
P5	SPS5184	PAD
P6	XZB10X30A02	PROTECTION COVER
ACCESSORIES		

Ref. No.	Part No.	Description
A1 (E, E5)	RQLF0071	INSTRUCTION MANUAL
A1 (EB)	RQLF0072	INSTRUCTION MANUAL
A1 (EG)	RQLF0074	INSTRUCTION MANUAL
A2 ⚠ (E, E5, EG)	SFDAC05E03	POWER CORD
A2 ⚠ (EB)	SJA188	POWER CORD

Printed in Japan
F890306000 TW/YY/TN